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BLACK & VEATCH Waste Science, Inc.

400 Northridge Road, Suite 350, Atlanta, Georgia 30350, (404) 594-2500, Fax: (404) 587-2930

US EPA -- Region IV
Site Inspections
Work Assignment No. 12

BVWS Project 52012.317
August 12, 1994

Mr. Narindar Kumar
Chief, Site Assessment Section
U.S. Environmental Protection Agency
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: Final Site Inspection
Prioritization
Chloride Automotive Batteries
Satellite
Columbus, Muscogee County, GA
EPA ID No. GAD991275140

Dear Mr. Kumar:

Enclosed please find one copy of the Final Site Inspection Prioritization for the Chloride Automotive Batteries Satellite in Columbus, Muscogee County, Georgia. If you have any questions, please contact me at 404/643-2320.

Very truly yours,

BLACK & VEATCH Waste Science, Inc.

Victor Blix
Project Manager

fw
Enclosure

cc: Doug Thompson, EPA PO, w/o enclosures
Deborah Davidson, EPA CO, w/o enclosures
Earl Bozeman, EPA WAM, w/o enclosures

AUG 15 1994

DYNAMAC
CORPORATION
Environmental Services

Peachtree Center Tower
230 Peachtree Street, N.W.
Suite 500
Atlanta, GA 30303

Telephone: 404-681-0933
Fax: 404-681-0894

June 10, 1994

Mr. Narindar Kumar, Chief
Site Assessment Section
EPA Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: Site Inspection Prioritization
Chloride Automotive Batteries Satellite
Columbus, Muscogee County, Georgia
EPA ID No. GAD991275140

Re: BVWS Contract No. 68-W9-0055 - Task Order No. 6, Amendment No. 2
BVWS Project No. 52012.317
Document Control No. BVWS-SIP-RD-017

Dear Mr. Kumar:

Dynamac Corporation has been tasked by BLACK & VEATCH Waste Science, Inc., under EPA Contract No. 68-W9-0055 to conduct a Site Inspection Prioritization for Chloride Automotive Batteries Satellite (the facility) in Columbus, Muscogee County, Georgia. According to the scope of work, a preliminary Hazard Ranking System (HRS) score was prepared to determine the need for future activities at the site.

The facility, a former battery manufacturer, is located on Joy Road in southern Columbus (Refs. 1; 2, Appendix A, p. A1; 3). The acreage of the facility was not documented. In 1962, Southeast Lead Company began operations at the facility which was owned by S.E. Graves. From 1973 to 1976, Conerex owned and operated the facility. Since Chloride, Inc., purchased the facility in 1976, the facility has operated in conjunction with two other facilities, Chloride Metals (GAD070330576) and Chloride Automotive Batteries (GAD991274929), which are located adjacent to the facility. It was not documented whether the facility operated in conjunction with the two other facilities prior to 1976 (Refs. 2, p. 3; 4; 5). From 1962 to 1984, the facility manufactured batteries (Ref. 2, pp. 3 - 4). The facility discharged cooling water into a pH neutralization pit east of the facility which discharged into a sewer (Refs. 6, p. 2; 7, p. 1). Chloride Metals recycled the lead battery scrap from the facility (Ref. 8, p. 1). In 1984, the facility was used to charge, store and distribute batteries for customer delivery (Ref. 3, p. 2). The current status of the facility is not known.

According to the available file material, no soil sampling has been conducted at the facility. On May 13, 1982, the Georgia Environmental Protection Division (GEPD) collected two sediment samples from a drainage ditch at the facility as part of an inspection of the adjacent Chloride Automotive Batteries facility and the Chloride Metal facility. Analytical results of the sediment samples indicated the presence of lead; however, the sediment samples were not analyzed for any other hazardous constituents (Refs. 2, App. B, pp. B1, B2; 6, pp. 9, 10).

A preliminary HRS score for the facility was calculated using the Site Inspection worksheets. Pathways evaluated include groundwater migration, surface water migration, soil exposure and air migration. The score reflects a Hazardous Waste Quantity (HWQ) value of 100 for all pathways in order to illustrate a "worst-case" scenario. Maximum contaminant characteristic values were assumed for all pathways.

The majority of residents within 4 miles of the facility obtain potable water from Columbus Water Works, Fort Benning and Phenix City Utilities (Refs. 1; 9; 10; 11; 12; 13). Columbus Water Works and Phenix City Utilities each maintain a surface water intake upstream of the facility on the Chattahoochee River near Oliver Dam (Refs. 9; 13). Fort Benning maintains a surface water intake on Upatoi Creek and four wells, three of which are not located within 4 miles of the facility (Ref. 12). The location of one of the four wells is not known; therefore, in order to present a "worst-case" scenario, it was assumed that the well is located within the Fort Benning boundaries within the closest distance interval from the facility (2- to 3-mile distance interval). Based on the extent of these water districts' service areas and the presence of the Fort Benning well, it was estimated that approximately 195 persons within 4 miles of the facility obtain drinking water from private wells (Refs. 1; 12; 14). No groundwater samples have been collected; therefore, the groundwater migration pathway was evaluated on potential to release and was limited by low target values.

According to available file material, surface water runoff from the facility, which is assumed to be located within the 500-year floodplain, flows either east into the sewer system via the pH neutralization basin or west into a drainage ditch (Refs. 1; 2; 6). Available file material did not indicate whether the drainage ditch eventually flows into the nearest perennial surface water body, an unnamed perennial tributary of Bull Creek, or into the sewer system (Refs. 2; 6). In order to present a "worst-case" scenario, it was assumed that the drainage ditch flows into the unnamed perennial tributary of Bull Creek which is located approximately 0.4 mile northwest of the facility. Based on its appearance on topographic maps of the area, it was assumed that the unnamed perennial tributary of Bull Creek is a fishery with an estimated flow of less than 10 cubic feet per second (cfs) (Ref. 1). This tributary flows west into Bull Creek, the flow of which is estimated to be between 10 to 100 cfs (Ref. 1). Bull Creek flows into the Chattahoochee River which has a recorded average flow of 6,748 cfs (Refs. 1; 16). The 15-mile surface water migration pathway terminates in

the Chattahoochee River (Ref. 1). There are no surface water intakes along the 15-mile surface water migration pathway (Ref. 17). No sensitive environments have been sighted along the 15-mile surface water migration pathway (Refs. 1; 18; 19).

No surface water or sediment samples were collected from a documented perennial surface water body; therefore, the surface water migration pathway was evaluated based on potential to release (Refs. 1; 2; 6, pp. 9, 10; 20). The overall surface water migration pathway score was limited by the lack of an observed release to a fishery and by the distance from the facility to the nearest perennial surface water body.

Land use within 4 miles of the facility is a mixture of urban, commercial and industrial (Refs. 1; 2, App. A, p. A1). The soil exposure pathway score, which was limited by the lack of an onsite residential population, was evaluated based on the assumption of surficial contamination; no onsite soil sampling was presented in the available file material. The air migration pathway was evaluated based on a potential to release; air samples have not been collected. According to topographic maps of the area, there are approximately 130 acres of wetland areas within 4 miles of the facility (Ref. 1). A total of 83,135 persons reside within 4 miles of the facility. As of 1984, the facility was not in operation but was used for distribution purposes; the current status of the facility is unknown (Refs. 3, p. 2; 21; 22).

HRS SCORING SUMMARY

S_{gw}	=	1.45
S_{sw}	=	13.52
S_{soil}	=	1.08
S_{air}	=	13.19
OVERALL SCORE	=	9.49

Due to the overall site score, the presence of minimal target populations and the lack of an observed release to any of the pathways, Dynamac Corporation recommends no further action for Chloride Automotive Batteries Satellite at the Federal level.

Please find attached all references used during this evaluation. If you have any questions or comments, please contact Victor Blix at (404) 594-2500.

Sincerely,

DYNAMAC CORPORATION

Charlotte M. Boulind
Site Manager

David L. Rusher
Vice President
Southern Division

Enclosures

cc: Lori C. Conway, Dynamac Site Assessment Project Manager
Victor Blix, BVWS SI/SIP Project Manager
File

REFERENCES

1. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps: Columbus, Georgia - Alabama 1955 (Photorevised [PR] 1985), Ochillee, Georgia 1955 (PR 1985), Phenix City, Alabama 1955 (PR 1984), scale 1:24,000.

2. Charles Stephen Walker, Environmental Specialist, Georgia Environmental Protection Division, Site Investigation Report, Chloride Automotive Batteries Satellite, Columbus, Georgia, GAD991275140, August 1985.

3. Trip Report for Chloride, Inc., Columbus Operations - Chloride Metals, Chloride Automotive Batteries Main and Satellite Plants, Columbus, Muscogee County, Georgia. Filed by Tom Westbrook, Environmental Specialist, Remedial Action Unit, Environmental Protection Division (GEPD), Georgia Department of Natural Resources, July 30, 1984.

4. Kenneth Strunk, Plant Manager, Chloride Metals, telephone conversation with Steve Walker, Remedial Action Unit, GEPD, July 30, 1985. Subject: The Chloride Automotive Batteries facilities.

5. Camilla Warren, Site Screening Unit, GEPD, telephone conversation with Tom Westbrook, Remedial Actin Unit, GEPD, September 12, 1984. Subject: Chloride Metals site and two Chloride Batteries sites in Columbus, Georgia.

6. Jack C. Dozier, P.E., Chief, Water Quality Control Section, GEPD, letter with attachments to Lawrence W. Hahn, Manager, Manufacturing Engineering, Chloride, Inc., June 18, 1982. Subject: Chloride, Inc., Columbus, Georgia.

7. Jack C. Dozier, P.E., Chief, Water Quality Control Section, GEPD, letter to Lawrence W. Hahn, Manager, Manufacturing Engineering, Chloride, Inc., November 18, 1982. Subject: Chloride, Inc., Columbus, Georgia.

8. Potential Hazardous Waste Site Preliminary Assessment (EPA Form 2070-12), Chloride Automotive Batteries - Satellite, Columbus, Muscogee County, Georgia. Filed by Thomas M. Westbrook, GEPD, March 6, 1984.

9. Vic Burchfield, Manager of Water Quality Management, City of Columbus Water Works, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, October 29, 1992. Subject: Source of drinking water for Columbus, Georgia.

10. Steve R. Davis, Manager, Engineering Services, Columbus Water Works, letter with attachment to Rachael Takei, Environmental Specialist, Dynamac Corporation, December 14, 1992. Subject: Water main information.

11. Pat Cosby, Engineer, Columbus Water Works, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, December 21, 1992. Subject: Water lines in Columbus.

12. Jack Hodges, Manager, Fort Benning Water Works Plant, telephone conversation with Rachael Takei, Environmental Specialist, and follow-up with Charlotte Hudson, Environmental Specialist, Dynamac Corporation, November 3, 1992. Subject: Source of drinking water for Fort Benning.

13. Roger Green, Chief Operator, Phoenix City Utilities, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, October 29, 1992. Subject: Drinking water sources for Phoenix City.

14. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing: Summary Population and Housing Characteristics - Tennessee, 1990 CPH-1-35 (Washington, D.C.: GPO, 1991), excerpt, 2 pages.

15. Deleted.

16. W. R. Stokes, III, et al., Water Resources Data Georgia Water Year 1991, Water-Data Report GA-91-1 (Atlanta, Georgia: U.S. Geological Survey, 1992), excerpt, 3 pages.

17. David Vaughn, Principal Engineer, Water Resources Management Program, Water Resources Management Branch, Georgia Department of Natural Resources, Environmental Protection Division, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, November 2, 1992. Subject: Surface water intakes off the Chattahoochee below Columbus.

18. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States (The Red Book), Vol. 1 (Washington, D.C.: GPO, 1992), excerpt, 5 pages.

19. Jerry L. McCollum and David R. Ettman, Georgia's Protected Plants, (Social Circle, Georgia: Georgia Department of Natural Resources, updated June 5, 1991), excerpt, 12 pages.

20. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper Number 40 (Washington, D.C.: GPO, 1961), excerpt, 3 pages.

21. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Data Base, compiled from U.S. Bureau of the Census data (1990).

22. Charlotte M. Boulind, Environmental Scientist, Dynamac Corporation, project note to Chloride Automotive Batteries Satellite file, May 4, 1994. Subject: Redistribution of the 0.25 - 0.50 mile radius population.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release to an Aquifer	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Containment	10	10	
	2b. Net Precipitation	10	6	
	2c. Depth to Aquifer	5	3	
	2d. Travel Time	35	25	
	2e. Potential to Release (lines 2a x [2b + 2c + 2d])	500	340	
3.	Likelihood of Release (higher of lines 1 and 2e)	550		340
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Well	50	3	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	3	
	8d. Population (lines 8a + 8b + 8c)	[b]	3	
9.	Resources	5	5	
10.	Wellhead Protection Area	20	0	
11.	Targets (lines 7 + 8d + 9 + 10)	[b]		11
	Groundwater Migration Score for an Aquifer			
12.	Aquifer Score ([lines 3 x 6 x 11]/82,500)[c]	100		1.45
	Groundwater Migration Pathway Score			
13.	Groundwater Migration Pathway Score (S_{gw})[c] (highest value from line 12 for all aquifers evaluated)	100		1.45

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.

Site Name: Chloride Automotive Batteries Satellite
Location: Columbus, Muscogee County, Georgia

DRAFT

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
DRINKING WATER THREAT			
Likelihood of Release			
1. Observed Release	550	0	
2. Potential to Release by Overland Flow			
2a. Containment	10	10	
2b. Runoff	25	1	
2c. Distance to Surface Water	25	9	
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	100	
3. Potential to Release by Flood			
3a. Containment (Flood)	10	10	
3b. Flood Frequency	50	7	
3c. Potential to Release by Flood (lines 3a x 3b)	500	70	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	170	
5. Likelihood of Release (higher of lines 1 and 4)	550		170
Waste Characteristics			
6. Toxicity/Persistence	[a]	10,000	
7. Hazardous Waste Quantity	[a]	100	
8. Waste Characteristics	100		32
Targets			
9. Nearest Intake	50	0	
10. Population			
10a. Level I Concentrations	[b]	0	
10b. Level II Concentrations	[b]	0	
10c. Potential Contamination	[b]	0	
10d. Population (lines 10a + 10b + 10c)	[b]	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	[b]		5
Drinking Water Threat Score			
13. Drinking Water Threat Score ([lines 5 x 8 x 12]/82,500, subject to a maximum of 100)	100		0.33

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

Factor Categories and Factors		Maximum Value	Value Assigned	
HUMAN FOOD CHAIN THREAT				
	Likelihood of Release			
14.	Likelihood of Release (value from line 5)	550		170
	Waste Characteristics			
15.	Toxicity/Persistence/Bioaccumulation	[a]	$5x10^8$	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	1,000		320
	Targets			
18.	Food Chain Individual	50	20	
19.	Population			
	19a. Level I Concentrations	[b]	0	
	19b. Level II Concentrations	[b]	0	
	19c. Potential Human Food Chain Contamination	[b]	-	
	19d. Population (lines 19a + 19b + 19c)	[b]	20	
20.	Targets (lines 18 + 19d)	[b]		20
	Human Food Chain Threat Score			
21.	Human Food Chain Threat Score ([lines 14 x 17 x 20]/82,500, subject to a maximum of 100)	100		13.19
ENVIRONMENTAL THREAT				
	Likelihood of Release			
22.	Likelihood of Release (value from line 5)	550		170
	Waste Characteristics			
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation	[a]	$5x10^8$	
24.	Hazardous Waste Quantity	[a]	100	
25.	Waste Characteristics	1,000		320

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
ENVIRONMENTAL THREAT (concluded)			
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	[b]	0	
26b. Level II Concentrations	[b]	0	
26c. Potential Contamination	[b]	0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	[b]	0	
27. Targets (value from line 26d)	[b]		0
Environmental Threat Score			
28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60		0.00
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29. Watershed Score[c] (lines 13 + 21 + 28, subject to a maximum of 100)	100		13.52
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30. Component Score (S_{ot})[c] (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100		13.52

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
- Not evaluated.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors		Maximum Value	Value Assigned	
RESIDENT POPULATION THREAT				
	Likelihood of Exposure			
1.	Likelihood of Exposure	550		550
	Waste Characteristics			
2.	Toxicity	[a]	10,000	
3.	Hazardous Waste Quantity	[a]	100	
4.	Waste Characteristics	100		32
	Targets			
5.	Resident Individual	50	0	
6.	Resident Population			
	6a. Level I Concentrations	[b]	0	
	6b. Level II Concentrations	[b]	0	
	6c. Resident Population (lines 6a + 6b)	[b]	0	
7.	Workers	15	5	
8.	Resources	5	0	
9.	Terrestrial Sensitive Environments	[d]	0	
10.	Targets (lines 5 + 6c + 7 + 8 + 9)	[b]		5
	Resident Population Threat Score			
11.	Resident Population Threat ([lines 1 x 4 x 10]/82,500)	[b]		1.07
NEARBY POPULATION THREAT				
	Likelihood of Exposure			
12.	Attractiveness/Accessibility	100	10	
13.	Area of Contamination	100	5	
14.	Likelihood of Exposure	500		5
	Waste Characteristics			
15.	Toxicity	[a]	10,000	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	100		32

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SOIL EXPOSURE PATHWAY SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
NEARBY POPULATION THREAT (Concluded)			
Targets			
18. Nearby Individual	1	1	
19. Population Within 1 Mile	[b]	4	
20. Targets (lines 18 + 19)	[b]		5
Nearby Population Threat Score			
21. Nearby Population Threat ([lines 14 x 17 x 20]/82,500)	[b]		0.01
SOIL EXPOSURE PATHWAY SCORE			
22. Soil Exposure Pathway Score (S_{soil})[d] (lines 11 + 21, subject to a maximum of 100)	100		1.08

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Gas Potential to Release	500	-	
	2b. Particulate Potential to Release	500	-	
	2c. Potential to release (higher of lines 2a and 2b)	500	500*	
3.	Likelihood of Release (higher of lines 1 and 2c)	550		500*
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Individual	50	20	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	48	
	8d. Population (lines 8a + 8b + 8c)	[b]	48	
9.	Resources	5	0	
10.	Sensitive Environments			
	10a. Actual Contamination	[d]	0	
	10b. Potential Contamination	[d]	0.02	
	10c. Sensitive Environments (lines 10a + 10b)	[d]	0.02	
11.	Targets (lines 7 + 8d + 9 + 10c)	[b]		68
	Air Migration Pathway Score			
12.	Air Migration Pathway Score (S_{air})[c] ([lines 3 x 6 x 11]/82,500)	100		13.19

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.
* Default value.
\- Not evaluated.

SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER
GAD991275140
Wastelan 1847

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE Chloride Automotive Batteries Satellite Site			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER P.O. Box 2165, Joy Road			
CITY Columbus, Muscogee County	STATE GA	ZIP CODE 31902	TELEPHONE ( )
COORDINATES: LATITUDE and LONGITUDE 32°26'09" 84°55'56"	TOWNSHIP, RANGE, AND SECTION		

OWNER/OPERATOR IDENTIFICATION					
OWNER Chloride, Inc.			OPERATOR		
OWNER ADDRESS P.O. Box 488			OPERATOR ADDRESS		
CITY Tampa			CITY		
STATE FL	ZIP CODE 33601	TELEPHONE ( )	STATE	ZIP CODE	TELEPHONE ( )

SITE EVALUATION		
AGENCY/ORGANIZATION Dynamac Corp.		
INVESTIGATOR Charlotte M. Boulnd		
CONTACT		
ADDRESS 230 Peachtree St. NW Ste. 500		
CITY Atlanta, GA 30303	STATE	ZIP CODE
TELEPHONE (404) 681-0933		

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GENERAL INFORMATION

Site Description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

See SI Report

Note: The SI Repat ~~rept~~ also includes Chloride Automotive Batteries (GAD 991774929) & Chloride Metals (GAD 070330576); however, this SIR only includes Chloride Automotive Batteries Satellite

GENERAL INFORMATION (continued)

Site Sketch: *Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.*

See SI Report, p. 13

GENERAL INFORMATION (continued)

Source Descriptions: Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

SOURCE TYPES

Landfill: A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drum: A portable container designed to hold a standard 55-gallon volume of wastes.

Tank and Non-Drum Container: Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

Pile: Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

- Chemical Waste Pile: A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.
- Scrap Metal or Junk Pile: A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.
- Tailings Pile: A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.
- Trash Pile: A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

Land Treatment: Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: Sources not in categories listed above.

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GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

No sources have been identified or sampled at the facility. Available file material indicates that there may be a pH neutralization pit onsite; however, the [illegible] of this unit was unspecified. It is also likely that there is contaminated soil at the facility. Hazardous wastes suspected at the facility are heavy metals & sulfuric acid. No containment was assumed for [illegible].

Ref: 11/18/82 [illegible] PA

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2).

Since no sources were identified & their respective ~~sizes~~ sizes, the HWQ value would be a default value of 10. However, in order to depict a "worst-case" scenario, a HWQ value of 100 was assigned.

Attach additional pages, if necessary

HWQ = 100

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
B Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
C Volume	Landfill	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Surface impoundment	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Drums	≤1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million to 675 million ft^3 >250,000 to 25 million yd^3
	Pile	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
	Other	≤6,750 ft^3 ≤250 yd^3	>6,750 to 675,000 ft^3 >250 to 25,000 yd^3
D Area	Landfill	≤340,000 ft^2 ≤7.8 acres	>340,000 to 34 million ft^2 >7.8 to 780 acres
	Surface impoundment	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Contaminated soil	≤3.4 million ft^2 ≤78 acres	> 3.4 million to 340 million ft^2 > 78 to 7,800 acres
	Pile	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres
	Land treatment	≤27,000 ft^2 ≤0.62 acres	>27,000 to 2.7 million ft^2 >0.62 to 62 acres

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites		
(Column 5) HWQ = 10,000	(Column 6) HWQ = 1,000,000	(Column 7) Divisors for Assigning Source WQ Values	(Column 2) Source Type	(Column 1) TIER
>10,000 to 1 million lbs	> 1 million lbs	lbs ÷ 1	N/A	A Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs ÷ 5,000	N/A	B Hazardous Wastestream Quantity
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Landfill	C Volume
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums ÷ 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons ÷ 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft^3 >25 million to 2.5 billion yd^3	> 67.5 billion ft^3 > 2.5 billion yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500	Contaminated Soil	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Pile	
>675,000 to 67.5 million ft^3 >25,000 to 2.5 million yd^3	> 67.5 million ft^3 > 2.5 million yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5	Other	
>34 million to 3.4 billion ft^2 >780 to 78,000 acres	> 3.4 billion ft^2 >78,000 acres	ft^2 ÷ 3,400 acres ÷ 0.078	Landfill	D Area
>130,000 to 13 million ft^2 >2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Surface Impoundment	
> 340 million to 34 billion ft^2 > 7,800 to 780,000 acres	> 34 billion ft^2 > 780,000 acres	ft^2 ÷ 34,000 acres ÷ 0.78	Contaminated Soil	
> 130,000 to 13 million ft^2 > 2.9 to 290 acres	> 13 million ft^2 > 290 acres	ft^2 ÷ 13 acres ÷ 0.00029	Pile	
>2.7 million to 270 million ft^2 >62 to 6,200 acres	> 270 million ft^2 > 6,200 acres	ft^2 ÷ 270 acres ÷ 0.0062	Land Treatment	

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1[a] to 100	1[b]
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

a If the WQ total is between 0 and 1, round it to 1.
b If the hazardous constituent quantity data are not complete, assign the score of 10.

SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: Chloride Auto. Batteries Satell. References

Sources:

1. Drainage ditch
2.
3.
4.
5.
6.
7.
8.
9.

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SOURCE	HAZARDOUS SUBSTANCE	TOXICITY	Nonkarst GROUND WATER PATHWAY		SURFACE WATER PATHWAY: River, fresh H2O — OVERLAND/FLOOD MIGRATION							GROUND WATER TO SURFACE WATER				AIR Pathway
			GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/Per Value (HRS Table 4-12)	Bioac Pot. (HRS Table 4-15)	Tox/ Pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/ Pers (HRS Table 4-20)	Ecotox/ Pers/ Bioacc Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioacc Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Pers/ Bioacc Value (HRS Table 4-30)	Toxicity mobility Part.
	Lead	10,000	1×10^{-2}	100	1.0	10,000	50	5×10^{6}	1,000	1,000	5×10^{6}	—	—	—	—	1.0
	Copper	—	1×10^{-2}	—	1.0	—	3,000	—	100	100	5×10^{4}	—	—	—	—	—
	Cadmium	10,000	1	10,000	1.0	10,000	5,000	5×10^{4}	1,000	1,000	5×10^{6}	—	—	—	—	0.8
»	Worst Case	10,000	1	10,000	1	10,000	5,000	5×10^{4}	10,000	10,000	5×10^{6}	—	—	—	—	1.0

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» Maximum values used for footprint in "worst case" scenario.

Part 1
5/25/88

Ground Water Observed Release Substances Summary Table

On SI Table 4, list the hazardous substances associated with the site detected in ground water samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility a value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

Ground Water Actual Contamination Targets Summary Table

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. If these percentages are less than 100% or all are N/A, evaluate the population using the well as a Level II target for that aquifer.

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

Sample ID	Hazardous Substance	Bckgrd. Conc.	Toxicity/ Mobility	References
		Highest Toxicity/Mobility		

NA
No groundwater samples have been collected.

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: _____ Level I ____ Level II ____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Well ID: _____ Level I ____ Level II ____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

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GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:
Describe generalized stratigraphy, aquifers, municipal and private wells

Potential to release was determined using geological information which Dynamac has developed through working on sites in similar areas.

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:
Provide apportionment calculations for blended supply systems.
County average number of persons per household: _____ Reference _____

Private well usage in the service areas for the water companies which serve w/i 4 miles of the facility is unknown. Approx. 17 residences appear to be outside these service areas. In addition, Ft. Benning maintains 4 wells, 3 of which are located outside of the 4-mile radius. The location of the fourth well is unknown; therefore, in order to present a "worst-case" scenario, it is assumed that the well is located at Ft. Benning w/i the closest distance ring from the facility (2-3 miles distance interval).

2-3 miles - 150 persons (Ft. Benning well)
3-4 miles 17 homes x 2.65 (pop per house for Russell Co., AL) = 45 persons

It is assumed that as well as Columbus Water Works serves the entire Columbus area. The water line map on file only depicts the southern portion of the Fort Benning city.

Hydrogeological Assessment for the Columbus, Muscogee County, Georgia, Area

The City of Columbus is located in the Coastal Plain physiographic province (Ref. 1, Sheet 1). Topography in the area is hilly, with elevations ranging from approximately 180 feet on the banks of the Chattahoochee River to approximately 450 feet above mean sea level on local hilltops (Ref. 2).

Geologic units which occur within the area include, in descending stratigraphic order, Chattahoochee River alluvial deposits, the Eutaw Formation, the Tuscaloosa Formation and the underlying igneous and metamorphic rocks which are called the crystalline basement (Ref. 3). The Chattahoochee River alluvial deposits, which are approximately 60 feet thick, are composed of sand, silt, gravel and clay (Ref. 5). The Eutaw Formation, which is composed of fine- to medium-grained, phosphatic, shelly sand, crops out on nearby hilltops (Ref. 4). The Tuscaloosa Formation is composed of gravelly, micaceous, quartzose, coarse sand where it outcrops and subcrops in the vicinity of the Chattahoochee River and is approximately 300 feet thick in the area. The Tuscaloosa Formation is underlain by the igneous and metamorphic rocks of the crystalline basement (Refs. 1, Sheets 1, 2, 5; 5). These rocks extend deep into the continental crust.

The city of Columbus is located within the outcrop area for the "aquifer A_6" of the Cretaceous Aquifer system. This aquifer is composed of the lower portion Eutaw Formation (where present) and sand beds which belong to the Tuscaloosa Formation (Ref. 1, Sheet 5). The aquifer A_6 is confined approximately 5 miles south of Columbus by clay beds in the upper Eutaw Formation. However, this confining unit is missing in some areas of Columbus. The aquifer A_6 is interconnected with the Chattahoochee River alluvial deposits to form one unconfined aquifer (Ref. 1, Sheet 1). The water table for this aquifer is expected to occur within the overlying Chattahoochee River alluvial deposits at an elevation approximately equivalent to the level of the Chattahoochee River, or approximately 20 to 30 feet below land surface (Ref. 2). The major source of recharge to this aquifer occurs through the infiltration of precipitation which falls on the outcrop area or where the outcrop area is overlain by permeable surficial material. Most natural discharge occurs through base flow to streams which cross the outcrop area (Ref. 1, Sheet 1).

Due to the relatively insoluble nature of the sediments which underlie the landfill, solutional activity and the karst flow of groundwater do not occur at this location.

References

1. Lin D. Pollard and Robert C. Vorhis, The Geohydrology of the Cretaceous Aquifer System in Georgia, Hydrologic Atlas 3 (Atlanta, Georgia: Georgia Geologic Survey, 1980), excerpt, 3 sheets.

2. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps of Georgia and Alabama: Phoenix City, Alabama 1955 (Photorevised [PR] 1984), Columbus, Georgia-Alabama 1955, Fort Mitchell, Alabama-Georgia 1955 (PR 1984), Fort Benning, Georgia-Alabama, 1955 (PR 1985).

3. Georgia Geologic Survey, Geologic Map of Georgia, (Atlanta, Georgia, Georgia Geologic Survey, 1976).

4. M. C. Turlington, Areal Map of the Pliocene to Recent Aquifer System, Hydrologic Evaluation for Underground Injection Control in the Coastal Plain of Georgia, Hydrologic Atlas 10, (Atlanta, Georgia: Georgia Geologic Survey, 1984), excerpt, 1 plate.

5. H. C. Karp, Jr., Structure-Contour Map of the Base of the Cretaceous Aquifer System, Hydrologic Evaluation for Underground Injection Control in the Coastal Plain of Georgia, Hydrologic Atlas 10, (Atlanta, Georgia: Georgia Geologic Survey, 1984), excerpt, 1 plate.

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GROUND WATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	Ø	H	No groundwater samples collected.
2. POTENTIAL TO RELEASE: Depth to aquifer: _______ feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.	340	E	See pp. C15A - C15E, C14A - C14B
LR =	340		

TARGETS	Score	Data Type	Refs
Are any wells part of a blended system? Yes____ No_____ If yes, attach a page to show apportionment calculations. 3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: _______ people x 10 = _______ Level II: _______ people x 1 = _______ Total =	Ø	H	No groundwater samples collected.
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	25 x 0.1 = 2.5 ROUNDED 3	E	Census, Topo, H_2O company/utility records
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	3	A	Topo, Ft. Be[illegible] wells [illegible]; Private usage w/ service in area
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	Ø	H	None in Region IV
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for a major or designated water recreation area, excluding drinking water use	5	A	"Worst case" scenario
Sum of Targets T=	11		

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value	Rel.
0 to $\frac{1}{4}$ mile	Ø	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	Ø	
> $\frac{1}{4}$ to $\frac{1}{2}$ mile	Ø	18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	Ø	
> $\frac{1}{2}$ to 1 mile	Ø	9	1	5	17	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	Ø	
> 1 to 2 miles	Ø	5	0.7	3	10	30	94	294	939	2,939	9,385	29,384	93,845	293,842	Ø	
> 2 to 3 miles	150	3	0.5	2	7	(21)	68	212	678	2,122	6,778	21,222	67,777	212,219	21	
>3 to 4 miles	45	2	0.3	1	(4)	13	42	131	417	1,306	4,171	13,060	41,709	130,598	4	
Nearest Well =		3												Sum =	25	

Topo; Census
Ft. Benning Well
17 houses x 2.65 pop per house for Russell County, AL = 45

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TABLE 3-1
GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
Likelihood of Release to an Aquifer			
1. Observed Release	550	0	
2. Potential to Release			
2a. Containment	10	10	
2b. Net Precipitation	10	6	
2c. Depth to Aquifer	5	3	
2d. Travel Time	35	25	
2e. Potential to Release [lines 2a x (2b + 2c + 2d)]	500	340	
3. Likelihood of Release (higher of lines 1 and 2e)	550		340
Waste Characteristics			
4. Toxicity/Mobility	a		
5. Hazardous Waste Quantity	a		
6. Waste Characteristics	100		
Targets			
7. Nearest Well	50		
8. Population			
8a. Level I Concentrations	b		
8b. Level II Concentrations	b		
8c. Potential Contamination	b		
8d. Population (lines 8a + 8b + 8c)	b		
9. Resources	5		
10. Wellhead Protection Area	20		
11. Targets (lines 7 + 8d + 9 + 10)	b		
Ground Water Migration Score for an Aquifer			
12. Aquifer Score [(lines 3 x 6 x 11)/82,500][c]	100		
Ground Water Migration Pathway Score			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		

[a]Maximum value applies to waste characteristics category.
[b]Maximum value not applicable.
[c]Do not round to nearest integer.

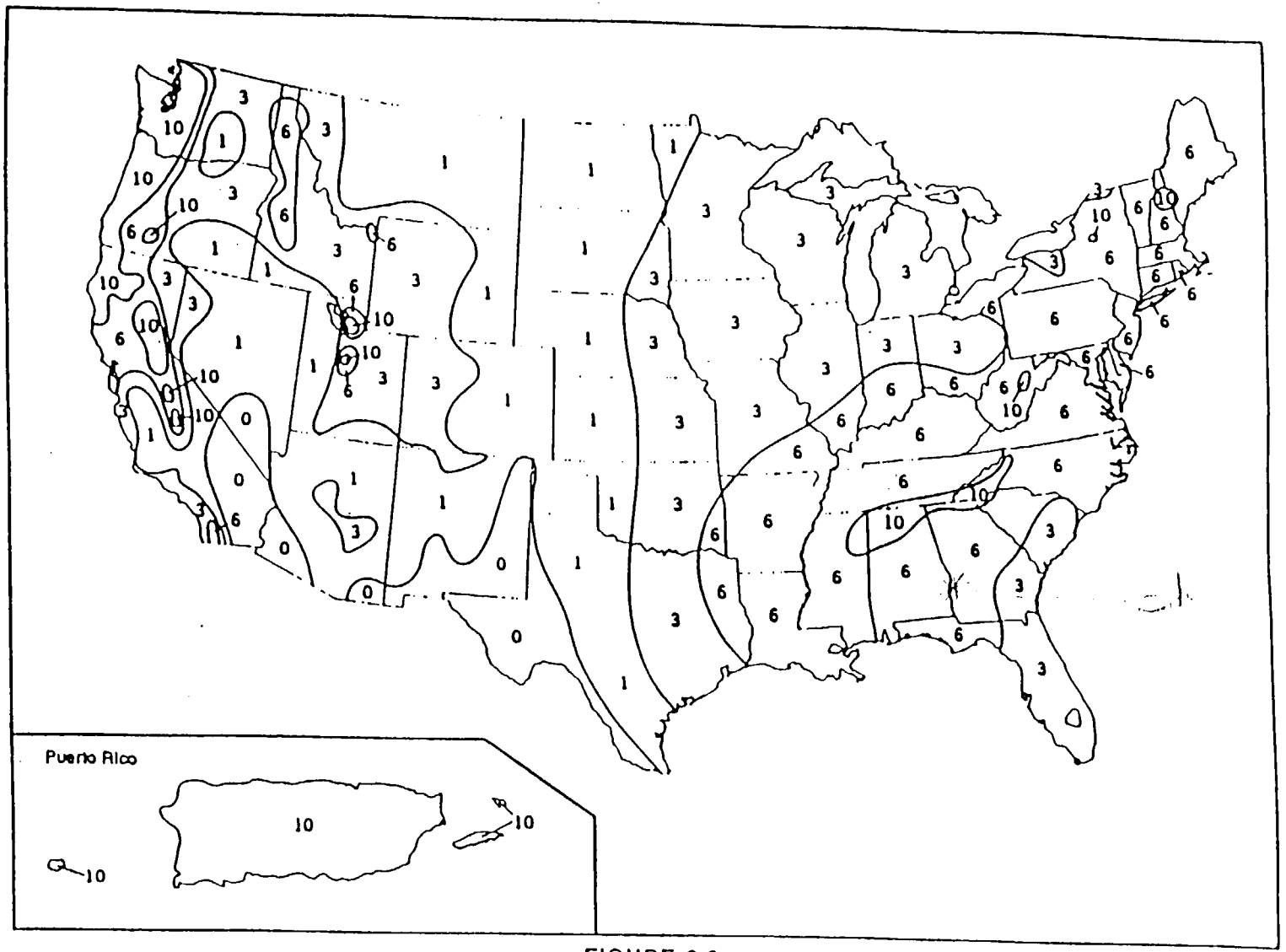

FIGURE 3-2
NET PRECIPITATION FACTOR VALUES

TABLE 3-5
DEPTH TO AQUIFER FACTOR VALUES

Depth To Aquifer[a] (feet)	Assigned Value
Less than or equal to 25	5
Greater than 25 to 250	(3)
Greater than 250	1

[a]Use depth of all layers between the hazardous substances and aquifer. Assign a thickness of 0 feet to any karst aquifer that underlies any portion of the sources at the site.

See Geology report

TABLE 3-6
HYDRAULIC CONDUCTIVITY OF GEOLOGIC MATERIALS

Type of Material	Assigned Hydraulic Conductivity[a] (cm/sec)
Clay; low permeability till (compact unfractured till); shale; unfractured metamorphic and igneous rocks	10^{-8}
Silt; loesses; silty clays; sediments that are predominantly silts; moderately permeable till (fine-grained, unconsolidated till, or compact till with some fractures); low permeability limestones and dolomites (no karst); low permeability sandstone; low permeability fractured igneous and metamorphic rocks	10^{-6}
Sands; sandy silts; sediments that are predominantly sand; highly permeable till (coarse-grained, unconsolidated or compact and highly fractured); peat; moderately permeable limestones and dolomites (no karst); moderately permeable sandstone; moderately permeable fractured igneous and metamorphic rocks	10^{-4}
Gravel; clean sand; highly permeable fractured igneous and metamorphic rocks; permeable basalt; karst limestones and dolomites	10^{-2}

[a]Do not round to nearest integer.

See geology Report p.04A-C14B

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TABLE 3-7
TRAVEL TIME FACTOR VALUES[a]

Hydraulic Conductivity (cm/sec)	Thickness of Lowest Hydraulic Conductivity Layer(s)[b] (feet)			
	Greater than 3 to 5	Greater than 5 to 100	Greater than 100 to 500	Greater than 500
Greater than or equal to 10^{-3}	35	35	35	25
Less than 10^{-3} to 10^{-5}	35	25	15	15
Less than 10^{-5} to 10^{-7}	15	15	5	5
Less than 10^{-7}	5	5	1	1

[a]If depth to aquifer is 10 feet or less or if, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

[b]Consider only layers at least 3 feet thick. Do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

Topo Map
270 msl
↓
Facility

Creek
↓
~~280~~ msl

DEPTH TO WATER TABLE ≈ 30 FEET, ESTIMATED FROM TOPO MAP. AJG

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS (continued)

SI Table 6b: Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	Pop. Value	Ref.
0 to $\frac{1}{4}$ mile		20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,248	521,360	1,632,455		
> $\frac{1}{4}$ to $\frac{1}{2}$ mile		20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122		
> $\frac{1}{2}$ to 1 mile		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 1 to 2 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
> 2 to 3 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
>3 to 4 miles		20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,227		
Nearest Well =														**Sum =**		

N/A
No Karst features in 4-mile radius.

GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS	Score	Data Type	Does not Apply
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.	100	A	
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.	10,000		
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)			

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

WC = 32

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$

1.45

(Maximum of 100)

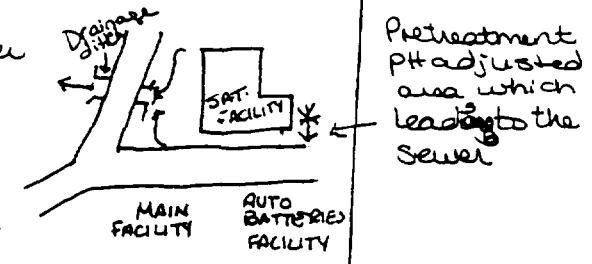
$\frac{340 \times 11 \times 32}{82,500}$

SURFACE WATER PATHWAY

Sketch of the Surface Water Migration Route:
Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.

Surface water runoff from the facility drains into the culvert of a drainage ditch. Available file material does not indicate where the ditch flows to. The surface water migration pathway was evaluated based on a potential to release to an unnamed tributary of Bull Creek.

Topographic maps do not depict any nearby perennial



Pretreatment pH adjusted area which leads to the sewer

There is also a possibility that SW runoff may flow from the drainage ditch to an unnamed perennial tributary of Bull Creek which is located approx. 0.4 mile northwest of the facility. This possibility was evaluated to illustrate a "worst-case" scenario.

→ SW bodies which could conceivably receive SW runoff from the facility. Since it is an urban area, the drainage ditch may flow into the city sewer system. *

Based on its appearance on topographic maps, the unnamed perennial tributary of Bull Creek was evaluated as a fishery with a flow of <10 cubic feet per second.

Refs. SI; 6/18/82 letter.; topo.

SURFACE WATER PATHWAY

Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in surface water samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x bioaccumulation
- ETPB = EP x bioaccumulation (EP = ecotoxicity x persistence)

Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100% or all are N/A, evaluate the population served by the intake as a Level II target.

SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

Sample ID	and concentrations Hazardous Substance	Bckgrd. Conc.	Toxicity/ Persistence	Toxicity/ Persis./ Bioaccum	Ecotoxicity/ Persis/ Ecobioaccum	References
		Highest Values				

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

Intake ID: _____ Sample Type _____ Level I _____ Level II _____ Population Served _____ References _____

Sample ID	Hazardous Substance	Conc. (µg/L)	Benchmark Conc. (MCL or MCLG)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

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N/A No soil samples collected

TABLE 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
DRINKING WATER THREAT			
Likelihood of Release			
1. Observed Release	550	0	
2. Potential to Release by Overland Flow			
2a. Containment	10	10	
2b. Runoff	25	1	
2c. Distance to Surface Water	25	9	
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	100	
3. Potential to Release by Flood			
3a. Containment (Flood)	10	10	
3b. Flood Frequency	50	7	
3c. Potential to Release by Flood (lines 3a x 3b)	500	70	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	170	
5. Likelihood of Release (higher of lines 1 and 4)	550		170
Waste Characteristics			
6. Toxicity/Persistence	a		
7. Hazardous Waste Quantity	a		
8. Waste Characteristics	100		
Targets			
9. Nearest Intake	50		
10. Population			
10a. Level I Concentrations	b		
10b. Level II Concentrations	b		
10c. Potential Contamination	b		
10d. Population (lines 10a + 10b + 10c)	b		
11. Resources	5		

TABLE 4-3
DRAINAGE AREA VALUES

Drainage Area (acres)	Assigned Value
Less than 50	(1)
50 to 250	2
Greater than 250 to 1,000	3
Greater than 1,000	4

Assumption based on topo.

C-22A

TABLE 4-4
SOIL GROUP DESIGNATIONS

Surface Soil Description	Soil Group Designation
Coarse-textured soils with high infiltration rates (for example, sands, loamy sands)	A
Medium-textured soils with moderate infiltration rates (for example, sandy loams, loams)	B
Moderately fine-textured soils with low infiltration rates (for example, silty loams, silts, sandy clay loams)	C
Fine-textured soils with very low infiltration rates (for example, clays, sandy clays, silty clay loams, clay loams, silty clays); or impermeable surfaces (for example, pavement)	D

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TABLE 4-5
RAINFALL/RUNOFF VALUES

2-Year, 24-Hour Rainfall (inches)	Soil Group Designation			
	A	B	C	D
Less than 1.0	0	0	2	3
1.0 to less than 1.5	0	1	2	3
1.5 to less than 2.0	0	2	3	4
2.0 to less than 2.5	1	2	3	4
2.5 to less than 3.0	2	3	4	4
3.0 to less than 3.5	2	3	4	5
3.5 or greater	3	4	5	6

Rainfall Atlas

TABLE 4-6
RUNOFF FACTOR VALUES

Drainage Area Value	Rainfall/Runoff Value						
	0	1	2	3	4	5	6
1	0	0	0	1	1	1	1
2	0	0	1	1	2	3	4
3	0	0	1	3	7	11	15
4	0	1	2	7	17	25	25

TABLE 4-7
DISTANCE TO SURFACE WATER FACTOR VALUES

Distance	Assigned Value
Less than 100 feet	25
100 feet to 500 feet	20
Greater than 500 feet to 1,000 feet	16
Greater than 1,000 feet to 2,500 feet	(9)
Greater than 2,500 feet to 1.5 miles	6
Greater than 1.5 miles to 2 miles	3

"Worst-case" Assumption > based on the nearest perennial surface body depicted on topographic maps of the area which is located approximately 0.4 mile NW of the facility.

TABLE 4-9
FLOOD FREQUENCY FACTOR VALUES

Floodplain Category	Assigned Value
Source floods annually	50
Source in 10-year floodplain	50
Source in 100-year floodplain	25
Source in 500-year floodplain	7
None of above	0

Assumption → flood plain map is on order.

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

LIKELIHOOD OF RELEASE– OVERLAND/FLOOD MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.	Ø	H	NO Sampling
2. POTENTIAL TO RELEASE: Distance to surface water: ____(feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.			
Distance to surface water <2500 feet: 500			
Distance to surface water >2500 feet, and:			
Site in annual or 10-yr floodplain: 500			
Site in 100-yr floodplain: 400			
Site in 500-yr floodplain: 300			
Site outside 500-yr floodplain: 100			
Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2	170		
LR =	170		

Top Flood Plain Map Rainfall Atlas

LIKELIHOOD OF RELEASE GROUND WATER TO SURFACE WATER MIGRATION	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.			
NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:			
1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0.			
2) No aquifer discontinuity is established between the source and the above portion of the surface water body.			
3) The top of the uppermost aquifer is at or above the bottom of the surface water.			
Elevation of top of uppermost aquifer _____			
Elevation of bottom of surface water body _____			
2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.			
LR =			

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SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)

DRINKING WATER THREAT TARGETS	Score	Data Type	Refs
Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5. Intake Name / Water Body Type / Flow / People Served _____ / _____ / _____ / _____ _____ / _____ / _____ / _____ _____ / _____ / _____ / _____ Are any intakes part of a blended system? Yes _____ No _____ If yes, attach a page to show apportionment calculations. 3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8). _____ , _____ Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ **Total =**	Ø	H	NDSU intakes sampled
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1. None w/i pathway.	Ø	H	telecon w/ Takai & Vaughn 11/2192
5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.	Ø	H	↓
6. RESOURCES. Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies. • Irrigation (5 acre minimum) of commercial food crops or commercial forage crops • Watering of commercial livestock • Ingredient in commercial food preparation • Major or designated water recreation area, excluding drinking water use	5	A	"worst-case" assumption
SUM OF TARGETS T=	5		

SI TABLE 9 (From HRS Table 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINATION FOR SURFACE WATER MIGRATION PATHWAY

Type of Surface Water Body	Pop.	Nearest Intake	Number of people									Pop. Value
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	
Moderate to large stream (> 100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	
Large Stream to river (>1,000 to 10,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	
Large River (> 10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	16	
Very Large River (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Shallow ocean zone or Great Lake (depth < 20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	
Deep ocean zone or Great Lake (depth > 200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	
3-mile mixing zone in quiet flowing river (≥ 10 cfs)		10	0	2	9	26	82	261	817	2,607	8,163	
Nearest Intake =										Sum =		

References _____

NA no surface water intakes identified w/i pathway

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SURFACE WATER PATHWAY

Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed releases detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (see SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

TABLE 4-14 (Concluded)

Type of Surface Water Body[b]	Number of People				
	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 to 10,000,000
Minimal stream (< 10 cfs)	52,137	163,246	521,360	1,632,455	5,213,590
Small to moderate stream (10 to 100 cfs)	5,214	16,325	52,136	163,245	521,359
Moderate to large stream (> 100 to 1,000 cfs)	521	1,633	5,214	16,325	52,136
Large stream to river (> 1,000 to 10,000 cfs)	52	163	521	1,632	5,214
Large river (> 10,000 to 100,000 cfs)	5	16	52	163	521
Very large river (> 100,000 cfs)	0.5	2	5	16	52
Shallow ocean zone or Great Lake (depth < 20 feet)	5	16	52	163	521
Moderate ocean zone or Great Lake (depth 20 to 200 feet)	0.5	2	5	16	52
Deep zone or Great Lake (depth > 200 feet)	0.3	1	3	8	26
3-mile mixing zone in quiet flowing river (≥ 10 cfs)	26,068	81,623	260,680	816,227	2,606,795

[a]Round the number of people to nearest integer. Do not round the assigned dilution-weighted population value to nearest integer.

[b]Treat each lake as a separate type of water body and assign it a dilution-weighted population value using the surface water body type with the same dilution weight from Table 4-13 as the lake. If drinking water is withdrawn from coastal tidal water or the ocean, assign a dilution-weighted population value to it using the surface water body type with the same dilution weight from Table 4-13 as the coastal tidal water or the ocean zone.

P.C-25a

SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: _____ Sample Type _____ Level I ____ Level II ____ References _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration	% of Cancer Risk Concentration	RfD	% of RfD
			Highest Percent		Sum of Percents		Sum of Percents	

SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: _____ Sample Type _____ Level I ____ Level II ____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

Environment ID: _____ Sample Type _____ Level I ____ Level II ____ Environment Value _____

Sample ID	Hazardous Substance	Conc.. (µg/L)	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
			Highest Percent		

N/A No surface sampling conducted.

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SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS	Score	Data Type	Refs

Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.

Fishery Name Bulls Creek Water Body River Flow 0 - n cfs
Species _____ Production _____ lbs/yr
Species _____ Production _____ lbs/yr

Fishery Name Matt anadrom Water Body River Flow @ n nn cfs
Species _____ Production _____ lbs/yr
Species _____ Production _____ lbs/yr

Fishery Name _____ Water Body _____ Flow 5 0 cfs
Species _____ Production _____ lbs/yr
Species _____ Production _____ lbs/yr

FOOD CHAIN INDIVIDUAL

7. ACTUAL CONTAMINATION FISHERIES:

If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.

Ø H No Sampling

8. POTENTIAL CONTAMINATION FISHERIES:

If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.

If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:

Lowest Flow	FCI Value
<10 cfs	(20)
10 to 100 cfs	2
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

FCI Value = 20 TOP

SUM OF TARGETS T = 20

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS	Score	Data Type	Refs

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
		cfs
		cfs
		cfs
		cfs
		cfs

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product
		x =	
		x =	
		x =	
		x =	
		Sum =	

Score: Ø Data Type: H Refs: No sampling.

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
Avg Kifcfs	0.001 x	5D x	0.1 =	0.005
cfs	x	Estuarine Recreational x	0.1 =	
cfs	x	Coronaria x	0.1 =	
cfs	x	x	0.1 =	
cfs	x	x	0.1 =	
		Sum =		0.005

Flow P.320 & P.325

GA's Protected Rivers P.23

T = 0.005

SI TABLE 13 (HRS TABLE 4-23): SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands — See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SI TABLE 12 (HRS Table 4-13): SURFACE WATER DILUTION WEIGHTS

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	**Flow Characteristics**	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001-0.0001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001-0.0001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001-0.00001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS — **Score**

		Score
~~14~~ 11.	If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.	100
~~15~~ 12.	Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.	

	Substance Value		HWQ		Product	WC Score (from Table) (~~Maximum of 100~~)
Drinking Water Threat Toxicity/Persistence	10,000	x	100	=	1×10^6	32
Food Chain Threat Toxicity/Persistence Bioaccumulation	5×10^3	x	100	=	5×10^5	320
Environmental Threat Ecotoxicity/Persistence/ Ecobioaccumulation	5×10^3	x	100	=	5×10^5	320

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 to <1E + 09	100
1E + 09 to <1E + 10	180
1E + 10 to <1E + 11	320
1E + 11 to <1E + 12	560
1E + 12 or greater	1000

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score $\frac{LR \times T \times WC}{82{,}500}$
Drinking Water	170	5	32	(maximum of 100) 0.33
Human Food Chain	170	20	320	(maximum of 100) 13.19
Environmental	170	0.005	320	(maximum of 60) 0.00

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(maximum of 100) **13.52**

SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g., ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substances listed. If cancer risk or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: ____________ Level I _____ Level II _____ Population ____________

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: ____________ Level I _____ Level II _____ Population ____________

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

Residence ID: ____________ Level I _____ Level II _____ Population ____________

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	% of Cancer Risk Conc.	RfD	% of RfD	Toxicity Value	References
			Highest Percent		Sum of Percents		Sum of Percents	

N/A No soil samples collected at the Salvin facility & no residents population identified.

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SOIL EXPOSURE PATHWAY WORKSHEET
RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.			
Worst case assumption → it is assumed that there is typical soil contamination. LE =	550		

TARGETS			
2. RESIDENT POPULATION: Determine the number of people living or attending school or day care on a property with an area of observed contamination and whose residence, school, or day care center, respectively, is on or within 200 feet of the area of observed contamination. Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Sum =	Ø	H	None identified
3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (*i.e.*, no Level I or Level II targets), assign 0 (HRS Section 5.1.3).	Ø	H	None identified
4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site.	5	A	assumption that the facility is still inactive; only used for storage/distribu
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination. Sum =	Ø	H	Topo RedBook
6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site; assign 0 if none applies. • Commercial agriculture • Commercial silviculture • Commercial livestock production or commercial livestock grazing	Ø	H	None identified
Total of Targets T=	5		

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value

SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

TERRESTRIAL SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Terrestrial critical habitat for Federal designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

SOIL EXPOSURE PATHWAY WORKSHEET
NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6) Value 10 Area of Contamination (from SI Table 18 or HRS Table 5-7) Value 5 Default Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)			
note: if there is no area of observed contamination, LE = 0.	LE = 5		

TARGETS	Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.	1	H	Geraldton Topo See p. C-4c
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (*i.e.*, properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.	4	H	GC MS
44 x 0.1 = 4.4 ROUNDED = 4	T = 5		

SI TABLE 17 (HRS TABLE 5-6): ATTRACTIVENESS/ACCESSIBILITY VALUES

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements–for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

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No documenta

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	100

SI TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF EXPOSURE FACTOR VALUES

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	10	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
5	50	25	5	5	5	5	0

SI TABLE 20 (HRS TABLE 5-10): DISTANCE-WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$	199	0	0.1	0.4	1.0	(4)	13	41	130	408	1,303	4,081	13,034	4
Greater than $\frac{1}{4}$ to $\frac{1}{2}$	596	0	0.05	0.2	0.7	2	(7)	20	65	204	652	2,041	6,517	7
Greater than $\frac{1}{2}$ to 1	1,983	0	0.02	0.1	0.3	1	3	10	(33)	102	326	1,020	3,258	33

Reference(s): 1990 GEMS Proj note Sum = 44

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SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10.	Assign the hazardous waste quantity score calculated for soil exposure HRS Section 5.1.2.2 and HRS Table 5-2.	100
11.	Assign the highest toxicity value for the soil exposure pathway from SI Table 3 or 15	10,000
12.	Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:	WC = 32

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E + 05	10
1E + 05 to <1E + 06	18
1E + 06 to <1E + 07	32
1E + 07 to <1E + 08	56
1E + 08 or greater	100

RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;
Targets = Sum of Questions 2, 3, 4, 5, 6)

550 x 5 x 32
L E X T X WC
~~82,500~~ STET

1.07

NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;
Targets = Sum of Questions 8, 9)

5 x 5 x 32
L E X T X WC
~~82,500~~ STET

0.01

SOIL EXPOSURE PATHWAY SCORE:
Resident Population Threat + Nearby Population Threat ~~(WA) 500~~

1.08
(Maximum of 100)

AIR PATHWAY

Air Pathway Observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate targets in the distance category from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

SI TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (ml) ___ References _____

Hazardous Substance	Conc. (µg/m³)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (ml) ___ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

Sample ID: _____ Level I _____ Level II _____ Distance from Sources (ml) ___ References _____

Hazardous Substance	Conc. (µg/m³)	Toxicity/ Mobility	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID	% of RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents	

NIP ND Air Samples Collected

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AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.			
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).	500	H	NC 2a
LR =	500		

TARGETS			
3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air. a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =	Ø	H	
4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1. 484 X 0.1 = 48.4 ROUNDED=	48	E	GEMS Proj Note
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	20	A	Assuming there are atleast a couple of workers from the district activities.
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.	Ø	H	
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	0.02	H	Red Book TCP
8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies. • Commercial agriculture • Commercial silviculture • Major or designated recreation area	Ø		
ROUNDED T =	68		

Sensitive Environment Type	Value

Wetland Acreage	Value

SI TABLE 22 (From HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATIONS

Distance from Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance Category												Pop. Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000	
On a source	0	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	0
0 to $\frac{1}{4}$ mile	199	*	1	4	13	(41)	131	408	1,304	4,081	13,034	40,812	130,340	408,114	41
$>\frac{1}{4}$ to $\frac{1}{2}$ mile	596	2	0.2	0.9	3	9	(28)	88	282	882	2,815	8,815	28,153	88,153	28
$>\frac{1}{2}$ to 1 mile	7,383	1	0.06	0.3	0.9	3	8	26	(83)	261	834	2,612	8,342	26,119	83
> 1 to 2 miles	30,502	0	0.02	0.09	0.3	0.8	3	8	27	83	(266)	833	2,659	8,326	266
> 2 to 3 miles	27,110	0	0.009	0.04	0.1	0.4	1	4	12	(38)	120	375	1,199	3,755	120
>3 to 4 miles	17,345	0	0.005	0.02	0.07	0.2	0.7	2	7	(24)	73	229	730	2,285	73
	Nearest Individual =	20												Sum =	484

TOTAL: 83,135

References TOPO; GANS; project note

* Score = 20 if the Nearest Individual is within $\frac{1}{8}$ mile of a source; score = 7 if the Nearest Individual is between $\frac{1}{8}$ and $\frac{1}{4}$ mile of a source.

SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
< 1 acre	0
1 to 50 acres	25
> 50 to 100 acres	75
> 100 to 150 acres	125
> 150 to 200 acres	175
> 200 to 300 acres	250
> 300 to 400 acres	350
> 400 to 500 acres	450
> 500 acres	500

SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Tables 13 and 20) 23	Product
On a Source	0.10	x	
		x	
0 to 1/4 mile	0.025	x	
		x	
		x	
1/4 to 1/2 mile	0.0054	x	
		x	
		x	
1/2 to 1 mile	0.0016	x	
		x	
		x	
1 to 2 miles	0.0005	x	
		x	
		x	
2 to 3 miles	0.00023	x wetlands @ 20acres	0.00575
		x 25	
		x	
3 to 4 miles	0.00014	x wetlands @ 110acres	0.0175
		x 125	
		x	
> 4 miles	0	x	
		Total Environments Score =	0.0232 5

No critical habitats designated for Muscogee Co.
The ranges of some fed. + state end. + threat. species may include the Columbus area, however their exact locations are not known.

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AIR PATHWAY (concluded)

WASTE CHARACTERISTICS

9.	If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	100
10.	Assign the highest air toxicity/mobility value from SI Table 21. 3 or	10 000
11.	Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:	WC = 32

Product	WC Score
0	0
>0 to <10	1
10 to <100	2
100 to <1,000	3
1,000 to < 10,000	6
10,000 to <1E+05	10
1E+05 to <1E+06	18
1E+06 to <1E+07	32
1E+07 to <1E+08	56
1E+08 or greater	100

AIR PATHWAY SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

13.19 (maximum of 100)

$$\frac{500 \times 68 \times 32}{82,500}$$

SITE SCORE CALCULATION	S	S^2
GROUND WATER PATHWAY SCORE (S_{GW})	1.45	2.10
SURFACE WATER PATHWAY SCORE (S_{SW})	13.52	182.78
SOIL EXPOSURE (S_S)	1.08	1.17
AIR PATHWAY SCORE (S_A)	13.19	173.92
SITE SCORE $\sqrt{\frac{S_{GW}^2+S_{SW}^2+S_S^2+S_A^2}{4}}$ =		9.49

COMMENTS

REFERENCE NO. 1

OVERSIZED

DOCUMENT

REFERENCE NO. 2

SITE INVESTIGATION REPORT

CHLORIDE AUTOMOTIVE BATTERIES SATELLITE

COLUMBUS, GEORGIA

GAD991275140

P.M. Allin Ph.D. for Steve Walker

Charles Stephen Walker
Environmental Specialist
Environmental Protection Division
August 1985

CHLORIDE AUTOMOTIVE BATTERIES SATELLITE

SITE INVESTIGATION REPORT

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

The Chloride Automotive Batteries Satellite site is located in the City of Columbus, Georgia. The site has been owned by S. E. Graves, Conerex, and by the present owners, Chloride, Inc. Site use prior to 1976 is unknown. During 1976, Chloride, Inc. purchased the facility and began manufacturing batteries on site.

A small amount of lead oxide and scrap lead waste was generated at this facility during manufacturing activities. This waste was transported to the adjacent Chloride Metals site (GAD070330576) for smelting. The facility is currently used for storage and is no longer manufacturing batteries. In 1982, plant runoff was identified by the Water Branch of the EPD as a major cause of lead contamination in an intermittent stream adjacent to the site. The yard area around the site has been paved by the facility in an attempt to eliminate lead-contaminated soil from entering the adjacent stream via surface runoff. The Chloride Automotive Batteries Satellite site is adjacent to two other hazardous waste sites owned by Chloride, Inc.; Chloride Metals (GAD070330576) and Chloride Automotive Batteries (GAD991274929).

The geology of the site area is composed of alternating sands and clays of Upper Cretaceous age. These unconsolidated sediments are underlain by crystalline rocks (granites, gneisses and schists) of Precambrian and Paleozoic age. The sedimentary rocks, which underlie the site are part of the Cretaceous Aquifer system. This aquifer is not known to be used in the vicinity of the site. Surface runoff from the site enters the Chattahoochee about 2

miles west of the site. The area around the site consists of heavily populated residential neighborhoods.

On July 24, 1984 Tom Westbrook of the EPD conducted a site inspection of the facility. Mr. Westbrook interviewed the Plant Manager of the site, Mr. Richard Smith. No samples were collected on the Chloride Automotive Batteries Satellite site; however, Mr. Westbrook collected a composite soil sample from a former slag waste pile at the adjacent Chloride Metals site. This sample contained lead at a concentration of 2,260 µg/kg (EP toxicity method). Samples were collected around the site by the Water Branch of the EPD in 1982, 1983, and 1984. Laboratory analysis of these samples indicated that lead was present in both water and sediment in an intermittent stream adjacent to the site.

The Chloride Automotive Batteries site is currently engaged in corrective actions (along with the 2 other adjacent Chloride sites) negotiated by the Water Branch of the EPD, which will reduce or eliminate lead contamination in stream sediments, storm water (surface water) runoff, and discharges from the site. The three contiguous Chloride sites are scheduled to have an NPDES storm water discharge permit sometime during late 1986 according to Larry Hedges of EPD (Industrial Waste Water Program).

Lead contamination of the stream water and sediments will be dealt with by the Industrial Water Quality Section of the Georgia EPD. For this reason, no further actions are planned for the site with respect to CERCLA.

2.0 BACKGROUND

2.1 Location

The Chloride Automotive Batteries site is located in the City of Columbus, in western Georgia (Appendix A, Figure 1).

2.2 Site Layout

The Chloride Automotive Batteries Site is adjacent to two other hazardous waste sites, the Chloride Metals site (GAD070330576) and the Chloride Automotive Batteries Satellite site (GAD991275140). The Chloride sites are bounded on the north by Joy Road and on the west and south by the Central of Georgia Railroad. A light industrial area lies to the east.

2.3 Ownership History

In a phone conversation on 7/30/85 (See Memo in Appendix C), Mr. Kenneth Strunk who has worked at the Chloride Metals site for approximately 15 years, stated that the Chloride Automotive Batteries Satellite site was originally owned by S. E. Graves (1962-1973) and Conerex (1973-1976). The facility was operated as the South East Lead Company (SELCO) while under the ownership of S. E. Graves, Inc. The present owners, Chloride, Inc. of Tampa, Florida, purchased the facility in 1976.

2.4 Site Use History

Site use prior to ownership by Chloride, Inc. is unknown. Presumably, S. E. Graves and Conerex both engaged in battery manufacture or related activities. Since 1976, the facility has manufactured batteries (exact type

of battery unspecified) on site.

2.5 Permit and Regulatory History

The Chloride Automotive Batteries Satellite facility has had a history of involvement with the EPD. The facility currently discharges neutralized acid waste to the local POTW under City of Columbus permit (personal conversation with Dave Bullard of EPD). According to Larry Hedges of EPD's Industrial Waste Water Program, the facility is in the process of obtaining an NPDS permit for surface runoff/storm water runoff from the facility. This process should be completed within one year.

2.6 Remedial Actions to Date

In an effort to reduce the lead content of surface runoff from the site area, Chloride, Inc., has voluntarily paved over sections of exposed yard area around the facility.

2.7 Summary Trip Report

Mr. Tom Westbrook of EPD arrived on site on the morning of 8/24/84. Mr. Westbrook spoke briefly with the Plant Manager, Mr. Richard Smith, who escorted Mr. Westbrook on a tour of the facility. No samples were collected at the Chloride Automotive Batteries Satellite site during this visit but a sample was collected from the adjacent Chloride Metals site from a former slag waste pile. Samples collected from around all three of the Chloride sites during 1982, 1983 and 1984 by the Industrial Water Quality Branch of the Georgia EPD revealed that lead contamination was present in stream water and sediments.

3.0 ENVIRONMENTAL SETTING

3.1 Topography

The topography of the site area is relatively flat with a slope of from 2% to about 5% toward the west. Because the site is located in an urban setting, much of the slope in the area has been flattened in the construction of roads, homes and businesses.

3.2 Surface Waters

Surface runoff from the site enters an unnamed stream about 100 feet southwest of the site. This stream enters Bull Creek about 1.5 miles southwest of the site. Bull Creek enters the Chattahoochee River about 2 miles west of the site.

The Chattahoochee River has had an average discharge of 6,773 ft^3/s during the 1920-1982 period as measured approximately 4 miles northwest of the site (Stokes et al., 1983).

3.3 Geology and Soils

Soils at the site have been mapped as the Eunola Complex. Data relating to the physical characteristics of these soils is included in Figure 3 of Appendix A (Johnson, 1983).

The site is underlain by unconsolidated and semiconsolidated sediments of Louvale Group (Eutaw and Tuscaloosa Formations) of Upper Cretaceous age (Arora, 1984). These alternating sands and clays are less than 500 feet thick in

the site area and are underlain by gneisses, granites and schists of Paleozoic and Precambrian age.

3.4 Ground Water

Sands and clays of the (Upper) Cretaceous Aquifer System underlie the site area. Adequate quantities of potable ground water exist in the more permeable, sandy zones of this aquifer (known elsewhere in the south as the Tuscaloosa Aquifer). The Columbus Municipal Water System does not utilize ground water in the site area (personal conversation between Steve Walker of the Georgia EPD and Mr. Bradley Culverson of the City of Columbus Municipal Water Services - see telephone memo in Appendix C).

3.5 Climate and Meteorology

The climate of the Columbus area is influenced by moist weather systems moving north from the Gulf of Mexico and by continental weather systems moving from the northwest. The Muscogee County area typically has cool winters and hot, humid summers (Johnson, 1983).

3.6 Land Use

The site is surrounded by heavily populated residential neighborhoods. Land use within Muscogee County is as follows (Pine Mountain Soil and Water Conservation District, 1979):

Land Use	Acres	% of Total (approx.)
Forest	95,500	69.0
Urban	38,621	28.0
Pasture	2,280	1.6
Roads	1,785	1.2
Crops	230	.2
	138,416	100.0

3.7 Population Distribution

Columbus had a population of 169,441 persons in 1984 (Burgess, 1984).

3.8 Water Supply

The Columbus Municipal Water System is supplied with 54 million gallons per day (mgd) of water from Lake Oliver on the Chattahoochee River at a point about 3 or 4 miles above downtown Columbus. The municipal water system does not utilize any ground water wells. Private ground water use in the immediate area of the site is unknown (personal communication between Steve Walker of the Georgia EPD and Mr. Bradley Culverson of the City of Columbus Municipal Water System - see telephone memo in Appendix C).

3.9 Critical Environments

No wetlands greater than 5 acres in size exist within 5 miles of the site; however, both the Red cockaded woodpecker and the American alligator have been observed in Muscogee County. Both of these are on the Federal Endangered Species List (Odom, et al, 1977).

4.0 WASTE TYPES AND QUANITIES

4.1 Waste Quantities

The waste data management sheet for the facility (Appendix C) indicates that 750,000 gallons of sulfuric acid waste were generated each year until 1984. This waste was neutralized on site and then discharged to the local POTW. A small amount of lead oxide waste and scrap lead was apparently generated on site also (Trip Report by Tom Westbrook, Appendix C). The site does not currently generate any hazardous waste.

4.2 Waste Disposal Methods and Locations

Sulfuric acid wastes were neutralized on site and discharged to the local POTW. All lead oxide waste and scrap lead was transported to the adjacent Chloride Metals site (GAD070330576) for smelting. No hazardous wastes are currently generated or disposed of on site.

4.3 Waste Types

Waste at the site consisted of sulfuric acid. Minor amounts of lead oxide and scrap lead were apparently generated on site also.

5.0 LABORATORY DATA

5.1 Summary

One composite soil sample was taken from the adjacent Chloride Metals site old waste pile area on 7/24/84. The sample contained 2,260 µg/kg of lead (EP toxicity method). Various environmental samples have been collected around all 3 contiguous Chloride sites by the water branch of the EPD during 1982, 1983 and 1984. The results (Appendix B) indicate that lead was present in both stream water and stream sediments in and around the Chloride sites.

5.2 Quality Assurance Review

All sampling and subsequent laboratory analysis by the EPD are covered by an approved Quality Assurance document.

6.0 TOXICOLOGICAL/CHEMICAL CHARACTERISTICS

The following substances have been identified at, or are known to occur at the site (Sax, 1984):

lead - OSHA standard in air TWA = 200 $\mu g/m^3$. A suspected carcinogen of the lungs and kidneys in humans. An experimental teratogen. Known to cause central nervous system damage in humans. The lowest lethal dose for a human (female) is 450 mg/kg/for 6 years (oral route).

EPA HRS Waste Characteristic value of:

	Ground Water and Surface Water Pathway Value	Air Pathway Value
lead	18	9

sulfuric acid - OSHA standard in air TWA = 1 mg/m^3. Very corrosive and a strong irritant. May ignite or explode upon contact with a variety of chemicals. The lowest lethal dose for a human (male or female) is 135 mg/kg.

EPA HRS Waste Characteristics Value

	Groundwater and Surface Water Pathway Value	Air Pathway Value
sulfuric acid	9	9

CSW/mcw021

References

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EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D991275140

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Chloride Automotive Batteries Satellite	P. O. Box 2165, Joy Road				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Columbus	GA	31902	Muscogee	215	03

09 COORDINATES: LATITUDE 32° 26' 12.0" | LONGITUDE 084° 56' 00.0"

10 TYPE OF OWNERSHIP (Check one): [X] A. PRIVATE [ ] B. FEDERAL _____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER _____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
08/24/85 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	about 1976 (BEGINNING YEAR) 1984 (ENDING YEAR) [ ] UNKNOWN (used as storage now)

04 AGENCY PERFORMING INSPECTION (Check all that apply):
[ ] A. EPA [ ] B. EPA CONTRACTOR _____ (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR _____ (Name of firm)
[X] E. STATE [ ] F. STATE CONTRACTOR _____ (Name of firm) [ ] G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Tom Westbrook	Environmental Specialist	GA EPD	(404 656-7404

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Mr. Kenneth Strunk	Plant Manager	P. O. Box 2165	(404689-1701
	(Chloride Metals)	Columbus, GA	( )
Mr. Richard Smith	Plant Manager	P. O. Box 2165	404 689-0716
	(Main & Satellite Plants)	Columbus, GA	( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT		

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Ms. Julia Herring-Personnel Man.	- Chloride Automotive Batteries	(404 689-0761

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Steve Walker Pilot for SIT	DNR	EPD-RAU	656-7404	07/31/85 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

J. Surovec

EPA

SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [ ] A. SOLID
- [X] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS unknown
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [X] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [X] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OOC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown	------	lead

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	lead	7439-92-1	de minimus losses	up to 32,000	ug/L total in w
				up to 46,000	mg/L total in s
ACD	sulfuric acid	7664-93-9	neutralized in tank	unknown	----

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☒ OBSERVED (DATE: 1982-1984) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Contamination from all three Chloride sties. Lead levels up to 36,000 µg/L have been documented (See Attached).

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 0-3(Approx) (Acres)
02 ☒ OBSERVED (DATE: 1982-1984) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Sediment in stream was contaminated with lead from surface runoff from plant area. Lead levels up to 46,000 mg/L (total) have been documented (Attached).

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

EPA FORM 2070-13 (7-81)

EPA

SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

01 STATE	02 SITE NUMBER
GA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Storm water runoff from all 3 Chloride sties was believed to have been causing elevated levels of lead in water and sediment in a stream adjacent to the sites.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: Unknown

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				Facility is required to
☐ B. UIC				have a NPDES for storm
☐ C. AIR				water.
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☒ D. TANK, ABOVE GROUND	(See Figure 2, App. A)	
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☒ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify) (pH adjustment)

05 OTHER

☒ A. BUILDINGS ON SITE

06 AREA OF SITE

about 10 (Acres)

07 COMMENTS

pH adjustment is carried on at the site. Battery acid is neutralized and discharged to the POTW.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☒ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Fugitive dusts.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis reports)

Conversation with Tom Westbrook.
GA EPD State Files.

EPA FORM 2070-13 (7-81)

SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

01 STATE: GA | 02 SITE NUMBER: D991275140

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check all that apply)	SURFACE	WELL
COMMUNITY	A. X	B. ☐
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS	ENDANGERED	AFFECTED	MONITORED
	A. ☐	B. ☐	C. X
	D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. 4 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) X D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: unknown, but small

03 DISTANCE TO NEAREST DRINKING WATER WELL: unknown (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
about 50 (ft)	S-SE	10 (ft)	1,000 (gpd)	☐ YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

None is known in area.

10 RECHARGE AREA		11 DISCHARGE AREA	
X YES / ☐ NO	COMMENTS: For Cretaceous aquifer system.	☐ YES / X NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Chattahoochee River	☐	2 (mi)
Bull Creek	☐	1.5 (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 10,000 NO OF PERSONS	B. 30,000 NO OF PERSONS	C. 100,000 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 1/20 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
about 10,000	1/20 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural village, densely populated urban area)

The site is surrounded by heavily populated urban land.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D991275140

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} – 10^{-8} cm/sec ☐ B. 10^{-4} – 10^{-6} cm/sec ☒ C. 10^{-4} – 10^{-3} cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
about 400 (ft)	< (ft)	4.5-5.5	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
4 (in)	3.5 (in)	2 - 5 %	SW	3 %

09 FLOOD POTENTIAL
SITE IS IN ------ YEAR FLOODPLAIN

10
☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. > 200 (mi)	B. >10 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
>20 (mi)
ENDANGERED SPECIES: Red cockaded woodpecker

13 LAND USE IN VICINITY

DISTANCE TO COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 1/20 (mi)	B. 1/20 (mi)	C. about 20 (mi)	D. about 5 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located in a relatively flat area in Columbus. The topography at and around the site has been altered in the construction of roads, buildings, etc. The general slope of the area is 2 to 5% toward the west.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

USGS 7.5 minute topographic map of area (Columbus Quadrangle).

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE

SITE INSPECTION REPORT

PART 6 - SAMPLE AND FIELD INFORMATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER	>	EPD lab	attached (App. B&C)
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL		EPD lab	attached (App. B&C)
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
1	

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND ☐ AERIAL

02 IN CUSTODY OF Remedial Action Unit
(Name of organization or individual)

03 MAPS X YES ☐ NO

04 LOCATION OF MAPS: GA EPD State Files.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	04 SIC CODE
Chloride, Inc.		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
P. O. Box 488	Tampa	FL	33601

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	11 SIC CODE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	12 CITY	13 STATE	14 ZIP CODE

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	11 SIC CODE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	12 CITY	13 STATE	14 ZIP CODE

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	11 SIC CODE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE
Conerex		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
Joy Road	Columbus	GA	31902

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE
S. E. Graves, Inc.		

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE
Joy Road	Columbus	GA	31902

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analyses, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Chloride Automotive Batteries	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
P. O. Box 2165	

05 CITY	06 STATE	07 ZIP CODE
Columbus	GA	31902

08 YEARS OF OPERATION	09 NAME OF OWNER
21	Chloride, Inc.

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
Chloride, Inc.	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
P. O. Box 488	

14 CITY	15 STATE	16 ZIP CODE
Tampa	GA	33601

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
05 CITY	06 STATE / 07 ZIP CODE	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

01 STATE	02 SITE NUMBER
GA	D991275140

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE	03 AGENCY

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ W. GAS CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Z. AREA EVACUATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☒ 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE 1982-1984	03 AGENCY Chloride, Inc.

The yard area around all 3 contiguous Chloride Sites has been paved to eliminate soil contamination from de minimus losses of lead dust.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION (X YES NO)

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

The Water Branch of the EPD has negotiated corrective actions to be undertaken at the site and at the two adjacent sites owned by Chloride, INc. The corrective actions are detailed in Appendix C.

III. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

APPENDIX A

Figure 1: Site Location Map - Chloride Automotive Batteries Satellite

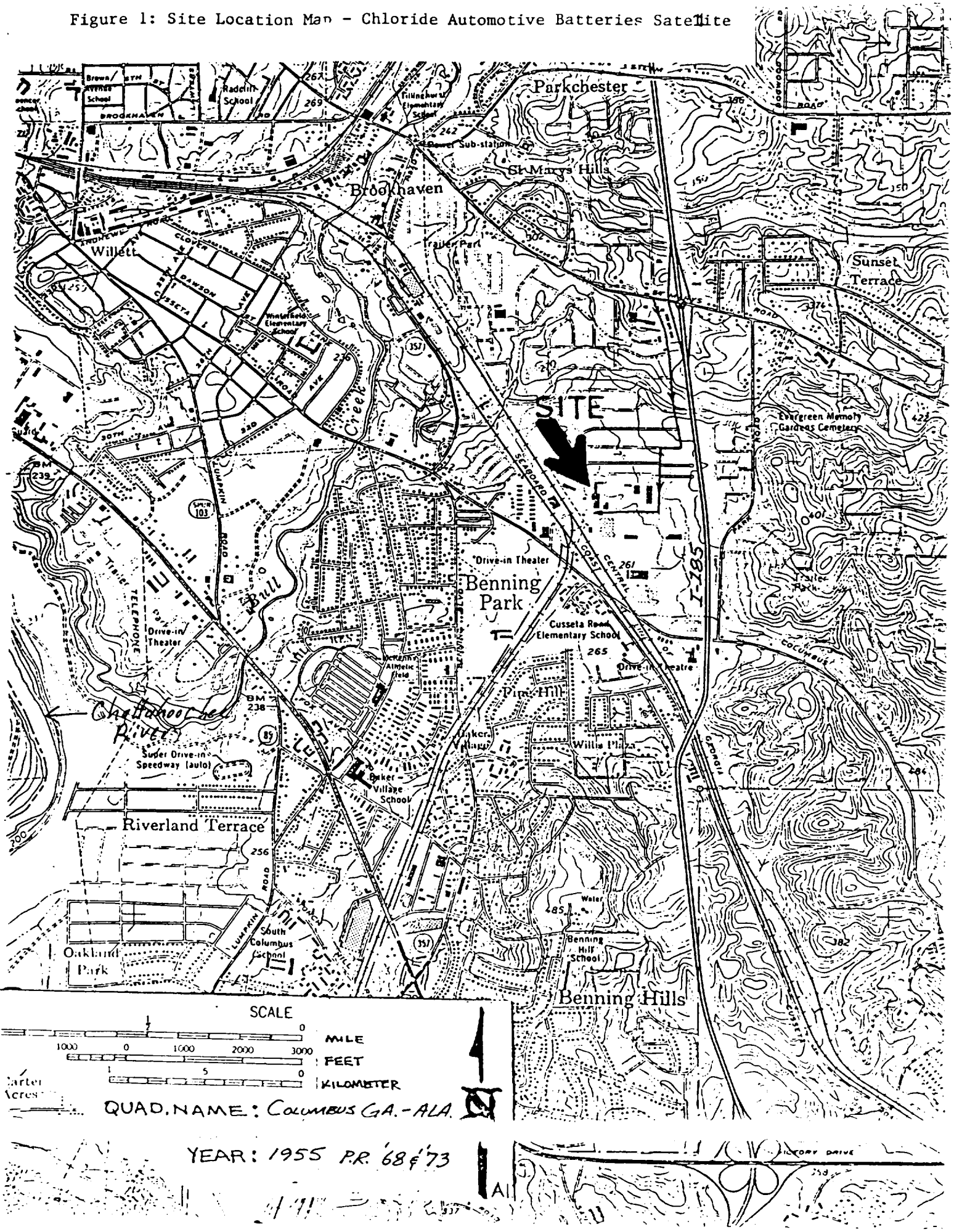
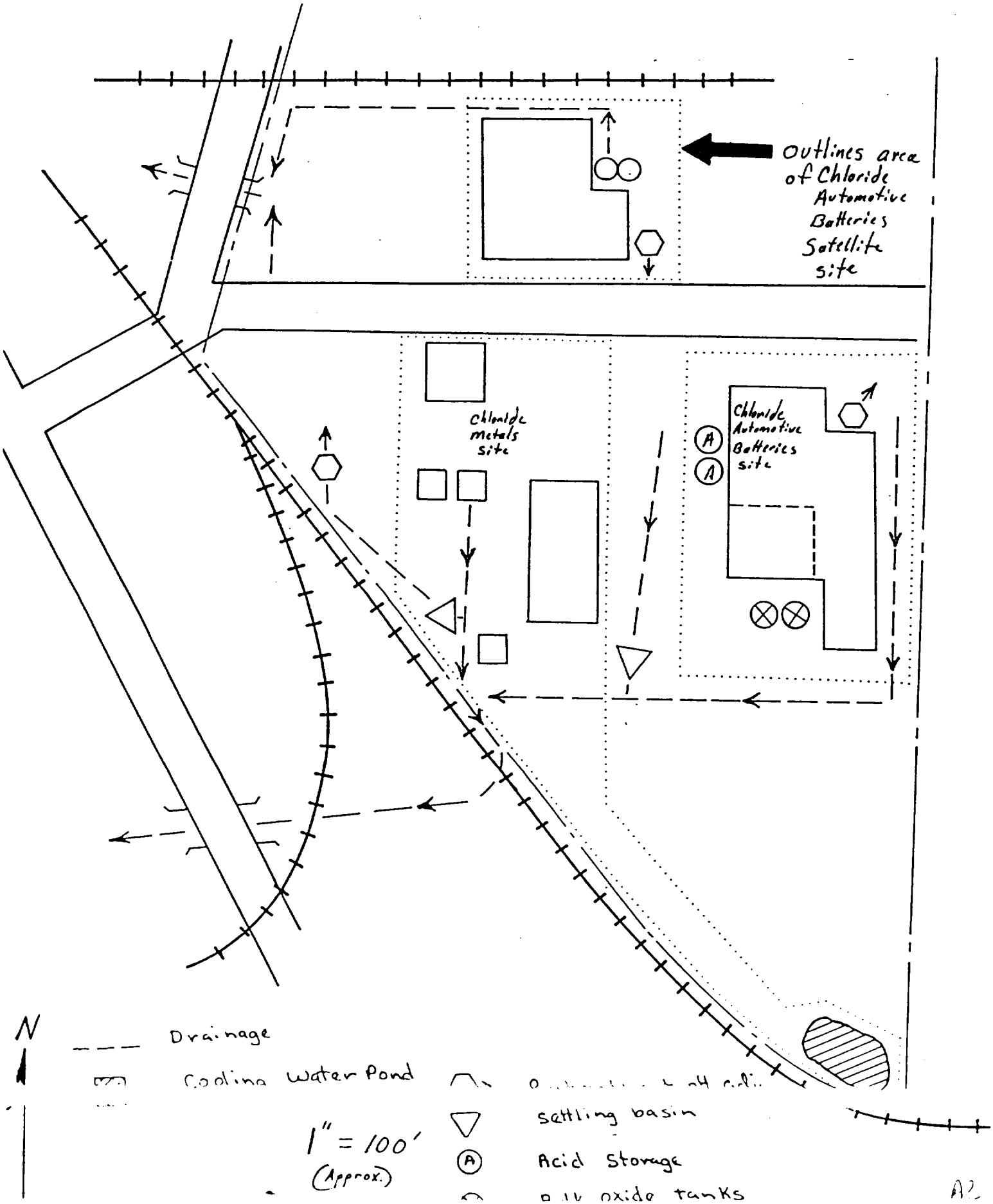
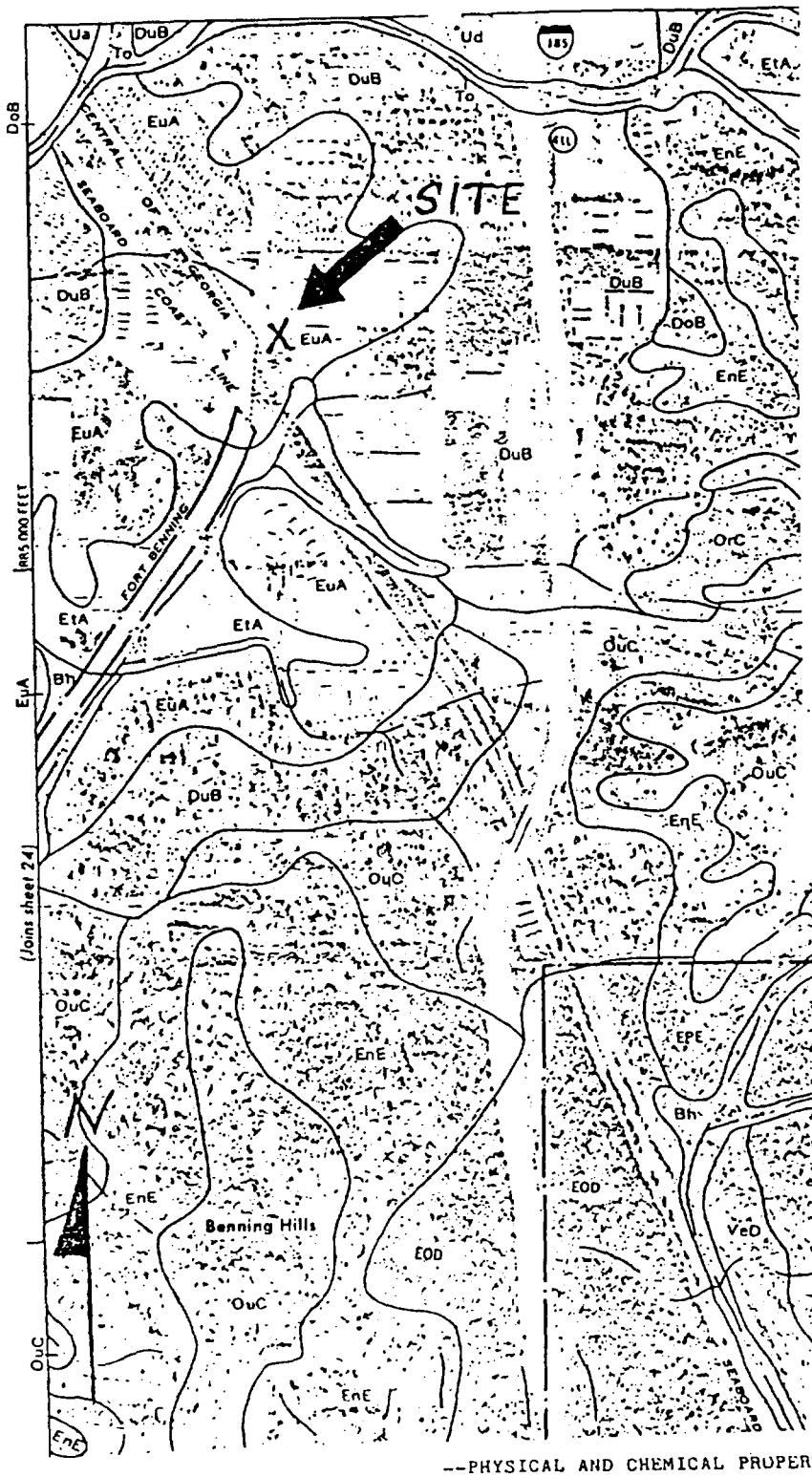


Figure 2: Site Sketch Map



A2

Figure 3: Soil Map of Site Area



EuA--Eunola-Urban land complex, 0 to 3 percent slopes. This complex consists of areas of moderately well drai Eunola soil and Urban land so intermingl that they could not be mapped separately at the scal selected. This nearly level and very gently sloping complex is on stream terraces of the Southern Coast Plain, mainly near Upatoi Creek. It is rarely flooded fo very brief periods from winter to the middle of spring. Mapped areas are 10 to 300 acres.

Eunola sandy loam makes up about 55 percent of t complex. Typically, the surface layer is dark grayish brown sandy loam about 9 inches thick. The subsoil i predominately sandy clay loam to a depth of 60 inche or more. The upper part is very pale brown; the middl part is yellowish brown and has strong brown, red, an light gray mottles; and the lower part is mottled yellov brown, strong brown, yellowish red, and light gray.

Eunola soils are low in natural fertility and organic matter content. They are strongly acid or very strongly acid throughout except for the surface layer in limed areas. Permeability is moderate, and the available wa capacity is medium. Tilth is good. The water table is a depth of 1.5 to 2.5 feet from late in fall to late in winte

Urban land makes up about 40 percent of each mapped area. It is private dwellings, industrial sites, streets, sidewalks, shopping centers, parking lots, churches, and schools. The soils have been altered b grading, cutting, filling, shaping, and smoothing.

The Eunola soil is poorly suited to sanitary facilities and moderately suited to most building site and recreational development because of seasonal wetne. However, in most places, this can be somewhat overcome by drainage. The common plants used for t landscaping, and vegetable gardens grow well.

This complex is not assigned to a capability subclas or woodland suitability subclass.

ticks and land division corners, if shown, are approximately positioned.

--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--

Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	High water table		
						Depth	Kind	Months
	In	%				Ft		
EuA*:								
Eunola	0-19	10-17	2.0-6.0	0.10-0.14	4.5-5.5			
	19-26	18-35	0.6-2.0	0.12-0.17	4.5-5.5	1.5-2.5	Apparent	Nov-Mar
	26-52	18-45	0.6-2.0	0.12-0.16	4.5-5.5			

APPENDIX B

WATER QUALITY ANALYSIS
ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

COLLECTED BY David Bullard

RECEIVED
BY O.H.
DATE 5-14-82
TIME 0900
VIA Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr. Mo Dy	TIME COLL.		STATION NO.	COLL AGENCY
469	820513	1225	9	12250000	30021

SAMPLE DESCRIPTION: Columbus Water Works Chloride Inj Stream on Toy Rd #1

TYPE 3 DATA — FIELD

PARAMETER	STORET CODE	R	VALUE
Code	90029		
Temp. °C	00010		
Temp. °C	00020		
ft	00065		
ft.	90065		
mg/l	00300		
	00400		

TYPE 2 DATA — LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	00310		
TOC mg/l	00680		
Color PCU	00080		
pH	00403		
Tot. Alk mg/l $CaCO_3$	00410		
Hdns. mg/l $CaCO_3$	00900		
Spec. Cond. µmho/cm	00095		
Turbidity JCU	00070		
NH_3 mg/l (N)	00610		
$NO_3 + NO_2$ mg/l (N)	00630		
Phos. mg/l (P)	00665		
F. Coli. MPN/100ml	31615		
T. Solids mg/l	00500		
S. Solids mg/l	00530		
Ca mg/l	00916		
Mg mg/l	00927		
Na mg/l	00929		

PARAMETER	STORET CODE	R	VALUE
K mg/l	00937		
Cl mg/l	00940		
SO_4 mg/l	00945		
Fe µg/l	01045		
Mn µg/l	01055		
T. Coli. MPN/100 ml	31505		
Pb	01051		6100

5-20-82 ... Kr. !

2

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

CTED BY David Bullard

RECEIVED BY D.H.
DATE 5-14-82
TIME 0900
VIA Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr.	Mo	Da	TIME COLL.	STATION NO.	COLL. AGENCY
14617	82	05	13	1225	12500000	3092 1

SAMPLE DESCRIPTION: Columbus Water Works Chlorinated Stream on Troy Rd #2

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	90029		
Temp. °C	00010		
Temp. °C	00020		
ft.	00065		
ft.	90065		
mg/l	00300		
	00400		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	00310		
TOC mg/l	00680		
Color PCU	00080		
pH	00403		
Tot. Alk mg/l $CaCO_3$	00410		
Hdns. mg/l $CaCO_3$	00900		
Spec. Cond. $\frac{\mu mho}{cm}$	00095		
Turbidity JCU	00070		
NH_3 mg/l (N)	00610		
$NO_3 + NO_2$ mg/l (N)	00630		
Phos. mg/l (P)	00665		
F. Coli. $\frac{MPN}{100ml}$	31615		
T. Solids mg/l	00500		
S. Solids mg/l	00530		
Ca mg/l	00916		
Mg mg/l	00927		
Na mg/l	00929		

PARAMETER	STORET CODE	R	VALUE
K mg/l	00937		
Cl mg/l	00940		
SO_4 mg/l	00945		
Fe µg/l	01045		
Mn µg/l	01055		
T. Coli. $\frac{MPN}{100\ ml}$	31505		
Pb.	01051		155

COMPLETED 5-20-82 Kcw

R7

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

'TED BY David Bullard

RECEIVED 5/14/82 N

BY D.H.

DATE 5-14-82

TIME 0900

VIA Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr	Mo	Da	TIME COLL.	STATION NO.	COLL. AGENCY
4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
4 6 8	8 2	0 5	1 3	1 3 2 0	9 1 2 2 5 0 0 0 0	3 0 0 2 1

SAMPLE DESCRIPTION: Columbus Water Works Chlorine Inc. Stream sample #4

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
oc Code	9 0 0 2 9		
emp. °C	0 0 0 1 0		
mp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. $\frac{\mu mho}{cm}$	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. $\frac{MPN}{100ml}$	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 9		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. $\frac{MPN}{100\ ml}$	3 1 5 0 5		
Pb.	0 1 0 5 1		3350

RR

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

TED BY David Bullard

RECEIVED BY DH KW
DATE 5-14-82
TIME 0900
VIA Bollard

PROJECT

LAB NUMBER			DATE Yr		COLL. Mo	Da	TIME COLL.				STATION NO.								COLL AGENCY				
4	5	6	7	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
4	2	6	P	0	5	1	3	1	3	2	0	9	1	2	2	5	0	0	0	0	3	0	0	2	1

SAMPLE DESCRIPTION: Columbus Water Works Chlorride Inc Stream Solid of Plant Sediment

TYPE 1 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Code	0 0 2 9		
Temp. °C	0 0 1 0		
D.O. °C	0 0 2 0		
pH	0 0 6 5		
Turb. ftu	0 0 6 5		
Alk. mg/l	0 3 0 0		
	0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER		STORET CODE	R	VALUE
BOD	mg/l	0 0 3 1 0		
TOC	mg/l	0 0 6 8 0		
Color	PCU	0 0 0 8 0		
pH		0 0 4 0 3		
Tot. Alk	mg/l $CaCO_3$	0 0 4 1 0		
Hdns.	mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond.	µmho/cm	0 0 0 9 5		
Turbidity	JCU	0 0 0 7 0		
NH_3	mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$	mg/l (N)	0 0 6 3 0		
Phos.	mg/l (P)	0 0 6 6 5		
F. Coli.	MPN/100ml	3 1 6 1 5		
T. Solids	mg/l	0 0 5 0 0		
S. Solids	mg/l	0 0 5 3 0		
Ca	mg/l	0 0 9 1 6		
Mg	mg/l	0 0 9 2 7		
Na	mg/l	0 0 9 2 9		

PARAMETER		STORET CODE	R	VALUE
K	mg/l	0 0 9 3 7		
Cl	mg/l	0 0 9 4 0		
SO_4	mg/l	0 0 9 4 5		
Fe	µg/l	0 1 0 4 5		
Mn	µg/l	0 1 0 5 5		
T. Coli.	MPN/100 ml	3 1 5 0 5		
Pb mg/kg Dry		0 1 0 5 2		12400
% Solids		8 0 5 1 0		77.3

R4

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

[COLLEC]TED BY: [Da]vid Bullard

LAB NUMBER				COLL. Mo		Da		TIME COLL.					STATION NO.									COLL. AGENCY				
4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
4	7	2	8	0	5	1	3	1	2	5	2	9	1	2	2	5	0	0	0	0	3	0	0	2	1

PROJECT ______

RECEIVED
BY: O. H. Kuw
DATE: 5-14-82
TIME: 0900
VIA: Bullard

[S]AMPLE [DE]SCRIPTION: Columbus Water Works Chloride Inc. Stream at Cusseta Rd 2-3

Sediment

TY[PE] 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
[L]oc. Code	00029		
[T]emp. °C	00010		
[Te]mp. °C	00020		
[illegible]	00065		
[illegible]	00065		
mg/l	00300		
	00400		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	00310		
TOC mg/l	00680		
Color PCU	00080		
pH	00403		
Tot. Alk mg/l $CaCO_3$	00410		
Hdns. mg/l $CaCO_3$	00900		
Spec. Cond. µmho/cm	00095		
Turbidity JCU	00070		
NH_3 mg/l (N)	00610		
$NO_3 + NO_2$ mg/l (N)	00630		
Phos. mg/l (P)	00665		
F. Coli. MPN/100ml	31615		
T. Solids % mg/l	00500		
S. Solids mg/l	00530		
Ca mg/l	00916		
Mg mg/l	00927		
Na mg/l	00923		

PARAMETER	STORET CODE	R	VALUE
K mg/l	00937		
Cl mg/l	00940		
SO_4 mg/l	00945		
Fe µg/l	01045		
Mn µg/l	01055		
T. Coli. MPN/100 ml	31505		
Pb mg/kg Dry	01052		102
% Solids	70510		81.3

[illegible] 5-20-82 [illegible]

RS

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

ECTED BY David Bullard

RECEIVED
BY C.H. KW
DATE 5-14-82
TIME 0900
VIA Bullard

PROJECT

LAB NUMBER					DATE COLL. Mo	Da	TIME COLL.				STATION NO.								COLL. AGENCY				
3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	4	2	1	8	0	5	1	3	1	2	5	2	9	1	2	2	5	0	0	0	0	3	0	0	2	1

SAMPLE DESCRIPTION: Columbus Water Works: Chlorine INC. Stream at Columbus GA #31

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	9 0 0 2 9		
Temp. °	0 0 0 1 0		
emp. °	0 0 0 2 0		
	0 0 0 6 5		
	0 0 0 6 5		
mg/	0 0 3 0 0		
	0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER		STORET CODE	R	VALUE
BOD	mg/l	0 0 3 1 0		
TOC	mg/l	0 0 6 8 0		
Color	PCU	0 0 0 8 0		
pH		0 0 4 0 3		
Tot. Alk	mg/l $CaCO_3$	0 0 4 1 0		
Hdns.	mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond.	$\frac{\mu mho}{cm}$	0 0 0 9 5		
Turbidity	JCU	0 0 0 7 0		
NH_3	mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$	mg/l (N)	0 0 6 3 0		
Phos.	mg/l (P)	0 0 6 6 5		
F. Coli.	$\frac{MPN}{100ml}$	3 1 6 1 5		
T. Solids	mg/l	0 0 5 0 0		
S. Solids	mg/l	0 0 5 3 0		
Ca	mg/l	0 0 9 1 6		
Mg	mg/l	0 0 9 2 7		
Na	mg/l	0 0 9 2 3		

PARAMETER		STORET CODE	R	VALUE
K	mg/l	0 0 9 3 7		
Cl	mg/l	0 0 9 4 0		
SO_4	mg/l	0 0 9 4 5		
Fe	µg/l	0 1 0 4 5		
Mn	µg/l	0 1 0 5 5		
T. Coli.	$\frac{MPN}{100\ ml}$	3 1 5 0 5		
Pb µg/L		0 1 0 5 1		3950

5-20-82 KW

RC

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

:TED BY Glen Vaughn (cww)

RECEIVED BY Kay
DATE 5-14-82
TIME 0100
VIA Dave Bullard
PROJECT

LAB NUMBER			DA		COLL		TIME COLL				STATION NO.										COLL AGENCY				
			Yr		Mo	Da																			
4	5	6	7	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
4	7	3	8	2	5	1	3					9	1	2	5	0	0	0	3	0	0	2	1		

SAMPLE DESCRIPTION: Columbus Water Works Majik Market @ Joy Rd

TYPE 1 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Code	0 0 2 9		
mp. °C	0 0 1 0		
p. °C	0 0 2 0		
ft.	0 0 6 5		
ft.	0 0 6 5		
mg/l	0 3 0 0		
	0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. $\frac{\mu mho}{cm}$	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 5 5		
F. Coli. $\frac{MPN}{100ml}$	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 9		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. $\frac{MPN}{100\ ml}$	3 1 5 0 5		
Pb	0 1 0 5 1	<	1.0

COMPLETED 5-19-82 BY Kay VALIDATED

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

:CTED BY Glen Vaughn (CWW)

RECEIVED
BY KCW
DATE 5-14-82
TIME 0800
VIA Dave Dillard

PROJECT

LAB NUMBER					DATE COLL. Mo	Da	TIME COLL.					STATION NO.										COLL. AGENCY				
3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	4	7	4	8	0	5	1	3	1	2	1	0	9	1	2	2	5	0	0	0	0	3	0	0	2	1

SAMPLE DESCRIPTION: Columbus water works Apparel mfg. Co Joy Rd

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	0 0 0 2 9		
Temp. °	0 0 0 1 0		
Temp. °	0 0 0 2 0		
	0 0 0 6 5		
	0 0 6 5		
mg/l	0 3 0 0		
	0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER		STORET CODE	R	VALUE
BOD	mg/l	0 0 3 1 0		
TOC	mg/l	0 0 6 8 0		
Color	PCU	0 0 0 8 0		
pH		0 0 4 0 3		
Tot. Alk	mg/l $CaCO_3$	0 0 4 1 0		
Hdns.	mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond.	µmho/cm	0 0 0 9 5		
Turbidity	JCU	0 0 0 7 0		
NH_3	mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$	mg/l (N)	0 0 6 3 0		
Phos.	mg/l (P)	0 0 6 6 5		
F. Coli.	MPN/100ml	3 1 6 1 5		
T. Solids	mg/l	0 0 5 0 0		
S. Solids	mg/l	0 0 5 3 0		
Ca	mg/l	0 0 9 1 6		
Mg	mg/l	0 0 9 2 7		
Na	mg/l	0 0 9 2 9		

PARAMETER		STORET CODE	R	VALUE
K	mg/l	0 0 9 3 7		
Cl	mg/l	0 0 9 4 0		
SO_4	mg/l	0 0 9 4 5		
Fe	µg/l	0 1 0 4 5		
Mn	µg/l	0 1 0 5 5		
T. Coli.	MPN/100 ml	3 1 5 0 5		
Pb		0 1 0 5 1	<	1 0

COMPLETED 5-18-82 CHECKED KCW INIT VALIDATED

88

REFERENCE NO. 3

Department of Natural Resources

ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

Commissioner

J. LEONARD LEDBETTER

July 30, 1984

TRIP REPORT

Site Name and Location: Chloride Inc. Columbus Operations-- Chloride Metals, Chloride Auto Batteries Main and Satellite Plants

Trip By: Tom Westbrook, Environmental Specialist
Remedial Action Unit

TMW

Accompanied By: None

Date of Trip: July 23-24, 1984

Officials Contacted: Mr. Kenneth Strunk, Plant Manager
Chloride Metals

Mr. Richard Smith, Plant Manager
Main and Satellite Plants

Reference: None

Comments: On the afternoon of July 23, 1984, the writer travelled to Columbus in order to perform a site inspection for the 3012 Program of the three facilities named above. The inspection was arranged to commence on July 24, 1984.

Upon arrival at the Chloride Metals site, I met with Mr. Kenneth Strunk and the details of our conversations are as follows:

1. Chloride Metals, Chloride Auto Batteries will now be known as the Chloride Battery Division (CBD) of Chloride Inc.

2. Chloride has been known on this site as SELCO--(S.E. Lead Co.) when Satellite and Main were--Contract Batteries. Prior to this the operation has been known as Conerex and S.E. Graves Inc.

3. The Smelter commenced operations in 1962.

4. We discussed the 3012 program and I explored some information about the Waste Pile--this pile is believed to have been a temporary storage facility. The process has never really changed at the smelter, but now, generated wastes are shipped to CWM in Alabama on an approximate 2 wk. schedule.

5. The runoff problem is understood and my position (3012) was expressed.

6. I agreed to sample the soils under the former pile and to split this sample with Chloride.

Appendix C

Prior to sampling, Mr. Strunk presented me to Mr. Richard Smith. Mr. Smith gave me details and a tour of the Satellite and Main Plants. Details are as follows:

1. The satellite facility is no longer a manufacturing operation--rather the area is used as a charging facility and a storage/distribution (warehouse) for customer delivery.

2. The Main and Satellite operations wastes have been accumulated and transported to Chloride Metals for smelting (reclamation).

3. The Main Plant is "geared up" equipped for a higher production capacity and does not store waste lead or oxide rather all materials go to the smelter.

4. On tour the operation has the appearance of a well run, organized, and clean operation.

Sample locations for the Waste Pile were selected with the input of Mr. Strunk. Kenneth was very cooperative and was anxious to obtain the samples that would result in a final disposition with respect to the Waste Pile. Kenneth pointed out the former area of the pile concurred that approximately 1 foot of fill went into the area where soils were taken in closing out the Pile. While digging, the Fill appeared to be more on the order of 6" to 8" (MAX) and holes were not advanced beyond 10". Three holes were advanced in order to obtain a single composite of the rather large area where the former pile rested. Samples taken were placed in a large clean jar, then mixed well (broken in sheet plastic) prior to splitting with Chloride. The composites were labelled WP-1- Chloride Metals and will be delivered to the EPD lab for EP-lead testing. A sketch map was prepared in the field and can be related to existing plant drawings. The sketch map is provided as Attachment 1. Two photographs were taken of sample locations and the area of the former waste pile.

Conclusions: No conclusions can be drawn until lab results are received and evaluated.

Recommendations and Follow-up Required:

1. Lab results must be received and evaluated.

2. A 3012 Site Inspection report should be completed on the 3 sites.

3. A map should be prepared and attached to this memo.

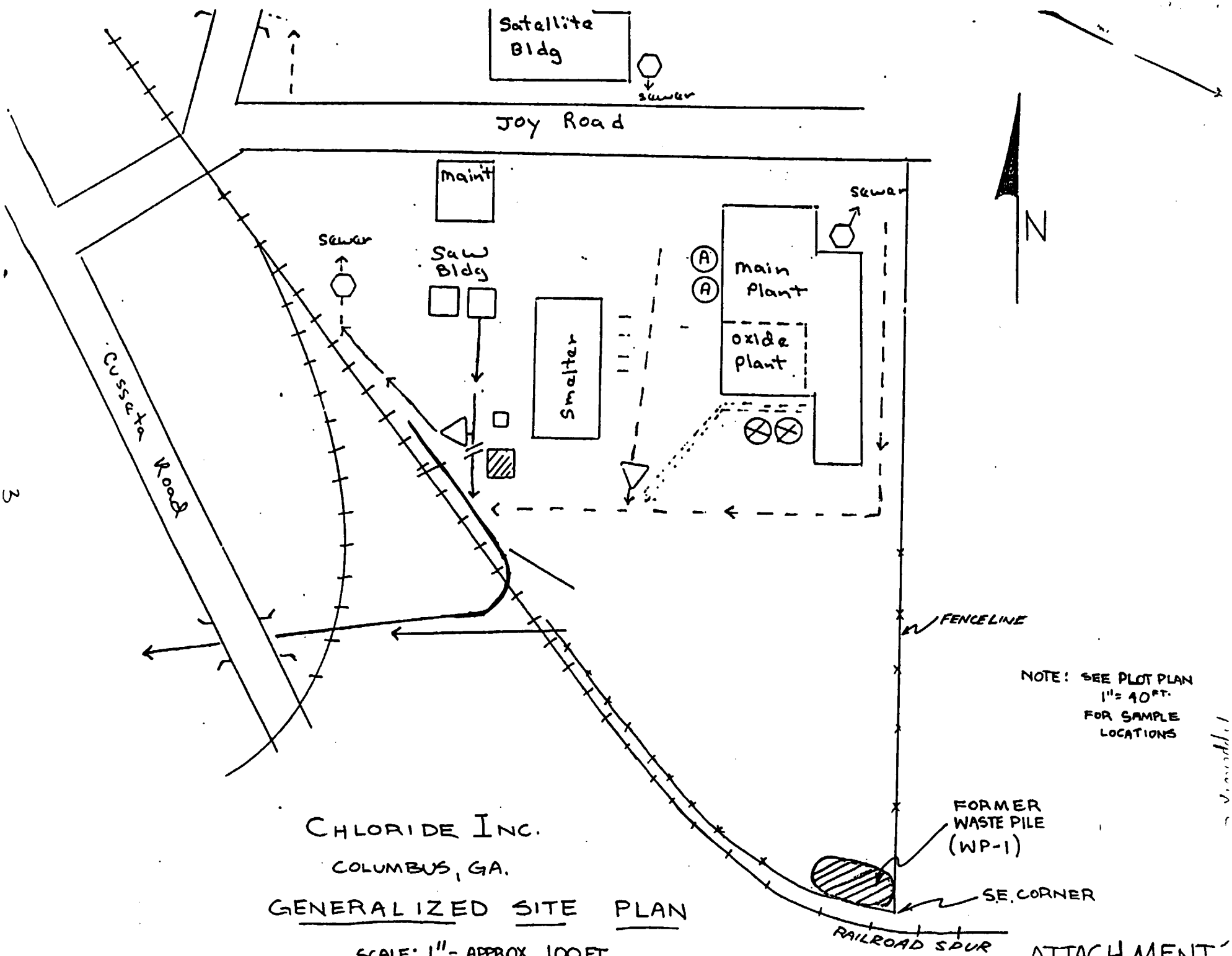
4. Chloride Metals should receive some response to letters requesting change of status to Generator and Transporter from TSD.

Photographs: Two polaroids

Reviewed By: Joseph J. Durovic

cc: John D. Taylor, Jr.
File Chloride Metals--Chloride Auto Batts.-Main and Satellite. "B"

2



CHLORIDE INC.

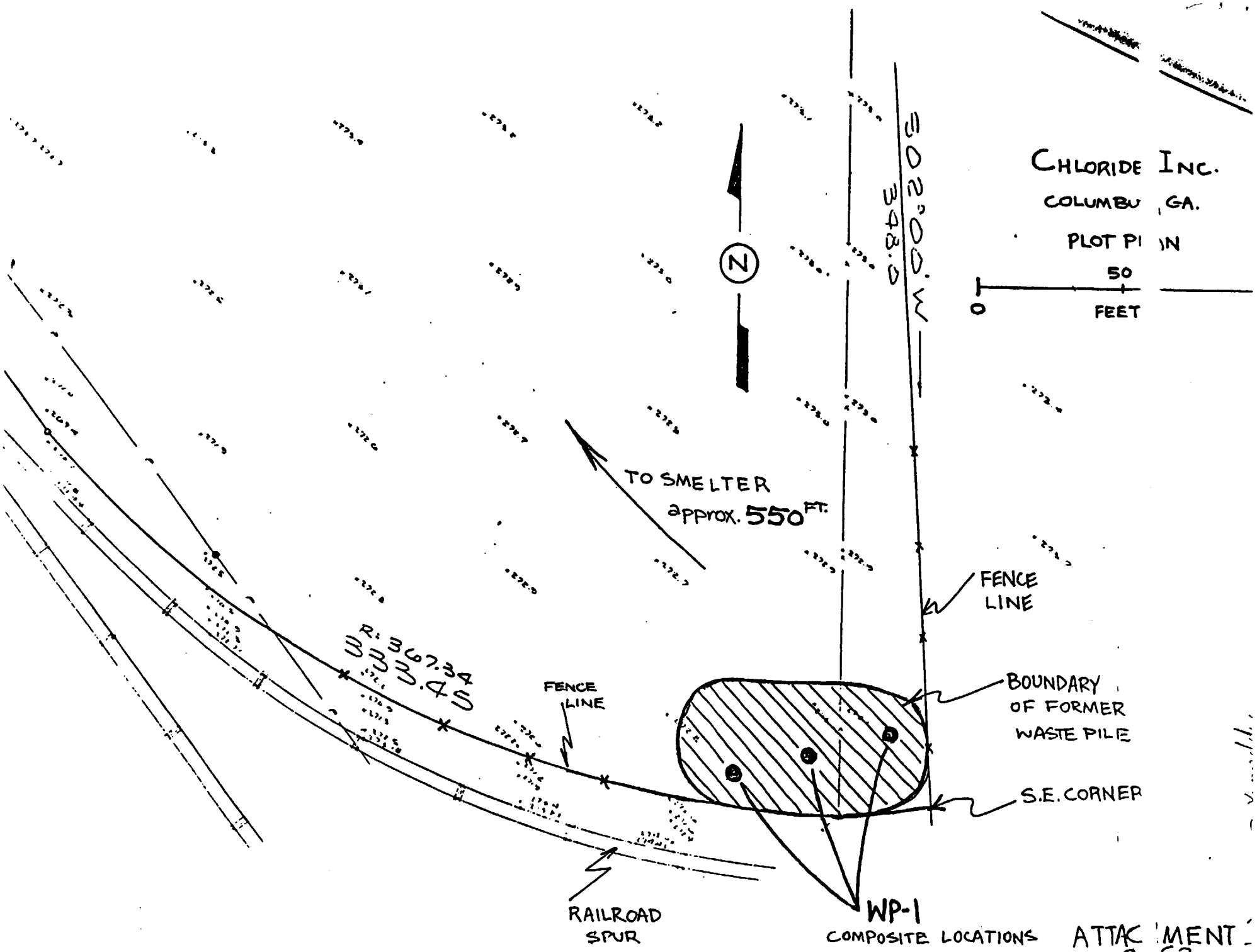
COLUMBUS, GA.

GENERALIZED SITE PLAN

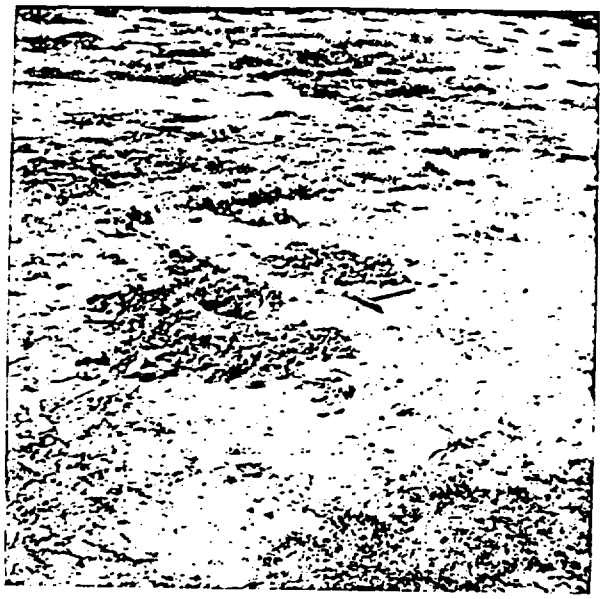
SCALE: 1" = APPROX. 100 FT

ATTACHMENT

3


CHLORIDE INC.
COLUMBU , GA.
PLOT PI N
50
0
FEET
N
S 20° 00' W
348.0
TO SMELTER
approx. 550 FT.
FENCE LINE
BOUNDARY OF FORMER WASTE PILE
S.E. CORNER
FENCE LINE
WP-1
COMPOSITE LOCATIONS
RAILROAD SPUR
ATTAC MENT
2 F2
TMW FR C.HLORIDE

Appendix C



#1 24JUL84 JW
CHLORIDE

County Name MUSCOGEE
Picture No 1 of 2
Site Name CHLORIDE METALS
Date 24JUL84 Weather clear
Direction Facing SW
Photographer T. WESTBROOK
Program 3012
Explanation: CLOSE-UP OF FIRST OF THREE HOLES FOR OBTAINING SOILS FOR WASTE PILE COMPOSITE
Other:
Near southern fence line, railroad tracks further to south (SEE PHOTO #2)

#2 24JUL84 JW
CHLORIDE

County Name MUSCOGEE
Picture No 2 of 2
Site Name CHLORIDE METALS
Date 24JUL84 Weather CLEAR
Direction Facing SW
Photographer T. WESTBROOK
Program 3012
Explanation: PHOTO OF 3 COMPLETED HOLES FOR WASTE PILE COMPOSITE
Other:
SAMPLE: WP-1 Chloride
Columbus

REFERENCE NO. 4

TELEPHONE MEMORANDUM

FROM: Steve Walker - EPD, RAV (404) 656-7404

SITE: Chloride Automotive Batteries (Metals) CAD991274929

DATE: 7/30/85 TIME: 10:40 a.m.

COMMENTS: I called to speak with Mr. Richard Smith. Mr. Strunk came on the line and stated that Mr. Smith no longer worked for Chloride at Columbus. Mr. Strunk stated that he has worked at the Chloride Metals site for about 15 years. He was able to answer my questions about the adjacent Chloride Automotive Batteries site. He indicated that the oxide storage tanks (Appendix A, Fig. 2) at the battery plant contain lead oxide in powder form. Mr. Strunk stated that S. E. Graves owned the Chloride Automotive Batteries site from 1969 until 1973 or 1974, ~~after which Conecey~~ then purchased all three contiguous Chloride sites and owned them until Chloride, Inc. purchased the 3 sites in the (major) late 1970's. Mr. Strunk stated that Ms Julia Herring, personnel manager of the Chloride Automotive Batteries plant, would be an appropriate

~~ACTION REQUIRED:~~ Contact for the site.

Steve Walker 7/30/85

cc: 1)
2)
3)
4)
5)

REFERENCE NO. 5

RECORD OF COMMUNICATION

☑ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

TO:	FROM:	DATE
Tom Westbrook GA EPD Remedial Actions Unit	Camille Warren EPD Site Screening Unit	Sept 12, 1984 TIME 2 30 pm

SUBJECT
CHLORIDE METALS SITE AND TWO CHLORIDE BATTERIES SITES IN COLUMBUS GA.

SUMMARY OF COMMUNICATION

- All three sites contiguous and owned by CHLORIDE METALS
- Waste pile (on chloride metals property) removed at company expense - sample data by State confirms no hazard. Under EP toxicity for Pb.
- chloride metals received waste from battery operations
- Water people (EPD) have consent order for chloride metals to clean up run-off problem. The company has agreed to collect and treat runoff; get NPDES permit. Water has sampled area for some time (since '82). Data will be included in report.
- Chloride batteries / Chloride metals also has some type of air permit
- Site is near a residential area (in 3mi limit)
- no wells known on site

CONCLUSIONS, ACTION TAKEN OR REQUIRED

THREE SITES ABOVE SHOULD BE ADDRESSED WITH ONE SI report. State will send three copies to EPA

INFORMATION COPIES
TO: Ray Wilkerson, File

REFERENCE NO. 6

Appendix C

Department of Natural Resources

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

270 WASHINGTON STREET S.W.
ATLANTA, GEORGIA 30334

June 18, 1982

Mr. Lawrence W. Hahn, Manager
Manufacturing Engineering
Chloride, Inc.
Automotive Division
3507 South 50th Street
Post Office Box 1124
Tampa, Florida 33601

RE: Chloride, Inc.
Columbus, Georgia

Dear Mr. Hahn:

On June 10, 1982, representatives of the Georgia Environmental Protection Division conducted an inspection at the referenced facility. This inspection was performed as a result of complaints concerning significant amounts of lead contamination in a drainage area below the plant property. As indicated in our letter dated June 2, 1982, analysis of samples collected in this area confirmed the presence of high levels of lead.

During our inspection of the main plant, the smelter operation and the satellite plant, the following problems were identified as probable or potential causes of stream contamination. Each item is numbered and is referenced on the attached location map.

Main Plant

1. Spillage of lead oxide could occur at the temporary lead oxide transfer station for the main plant. It is recommended that the in-plant transfer system be made operational or that an adequate spill prevention procedure be developed for the temporary system.

2. The potential exists for runoff contamination from the acid storage area. The old tanks should be removed from the site and precautions taken to prevent acid contaminated runoff during periods of rainfall. Leaking water seals were observed on the acid transfer pumps. The seals should be replaced to prevent water accumulation in the area of the acid tanks.

3. There was a discharge from a roof drain of the main plant building. This discharge contained kerosene which was leaking from a storage drum. Although the kerosene leak was eliminated that day, the potential exists for leaks and spills in this area and corrective action should be taken to prevent future problems. In addition, the source of the discharge from the roof drain during periods of dry weather should be identified and eliminated.

Lead Smelter

4. The potential for a discharge exists at the collection area for the cracking of batteries and scrap lead storage. During periods of rainfall the berm at the end of the collection channel would not be sufficient to contain contaminated runoff.

5. The area where impurities from the lead oxide process are stored in barrels is not diked and this area was identified as a source of potential contaminated runoff.

6. Storm water and plant washdown from the smelter and the lead oxide plant drain to a small settling basin and then to the drainage ditch. Just outside the plant property this drainage ditch contained significant quantities of lead based on our sampling results of May 13, 1982.

7. Batteries to be reclaimed were observed stacked in front of the smelter building. The potential exists for acid spillage and runoff in this area. Batteries should be removed and the practice of storage in this area should be discontinued.

8. Oil and steam cleaning wastes have been allowed to run off the plant property in the area of the maintenance building. Although this practice has been stopped, additional cleanup in this area is needed.

Satellite Plant

9. The cooling water discharges that discharge to the drainage area behind the satellite plant should be eliminated or permitted through this office. An NPDES permit application was transmitted to your office in our letter of June 2, 1982.

The pretreatment system for discharges to the municipal system consisted of pH neutralization with anhydrous ammonia. As was discussed, discharges to the City of Columbus' system must comply with the industrial pretreatment requirements for the City. It appeared that the acid wastes from the processes were being adequately neutralized, however, there were no provisions for removal of lead.

We are very concerned with the high levels of lead that were found in the drainage area below the plant discharge. Therefore, we are requesting that your office provide the Division with a report by July 15, 1982, outlining action that Chloride, Inc. will take on the following:

Appendix C

1. The discharge of lead-contaminated runoff should be eliminated. The report should address the overall problem with contaminated runoff from the plant site and should include a plan for corrective action as well as a schedule for completion.

2. Our May 13, 1982 sampling data indicated that the discolored sediment in the stream behind the plant property is contaminated with lead. The lead contamination is visible in the stream from the plant property down to Cusseta Road. This contaminated sediment must be removed and disposed of in accordance with all State, City, and Federal regulations.

My staff has indicated that you demonstrated a willingness to resolve these problems and comply with the applicable laws. We appreciate your spirit of cooperation, however, we would like to emphasize that the problem is very serious and, if a timely resolution of these problems is not forthcoming, we are prepared to take appropriate follow-up action.

Sincerely,

Jack C. Dozier

Jack C. Dozier, P.E., Chief
Water Quality Control Section

JCD/dska

cc: Mr. Bob Tant
City of Columbus

ATTACHMENT

Appendix C

Department of Natural Resources

JOE D. TANNER
Commissioner

LEONARD LEDBETTER
Division Director

270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

June 24, 1982

M E M O R A N D U M

TO: Robert W. Troxler

THRU: Alan W. Hallum AWH

FROM: David L. Bullard

RE: Chloride Incorporated
Columbus, Georgia

On June 10, 1982, Alan Hallum and I met with officials of Chloride Incorporated in Columbus, Georgia to investigate possible sources of contamination into streams surrounding this plant. This investigation was conducted as a result of significant amounts of lead being found in streams and sediment samples collected in the surrounding streams on May 13, 1982.

Those in attendance at this meeting were:

1. Laurence Hahn: Regional Manager
2. Dick Smith: Manager, Main Plant
3. Kenneth Strunk: Manager, Smelter
4. Ron Fisher: Manager, Satellite Plant
5. Louis Anderson: Area Personnel Manager
6. Alan W. Hallum: Georgia EPD
7. David Bullard: Georgia EPD

The investigation included a tour of the Main Plant, the Smelter Operation and the Satellite Plant. The attachment outlines problems identified at each of these facilities. Each problem is numbered and is referenced on the attached location map.

When the tour was complete, Alan Hallum discussed with the Chloride representatives the action which would be necessary to resolve identified problems. Chloride representatives indicated a willingness to correct these problems.

Also during the investigation samples were collected and photographs were taken. Information on the sample point location and results will be attached when available.

After the investigation and meeting, Alan Hallum discussed the situation with Mark McGee of Channel 9 News in Columbus, Georgia.

Appendix C

A letter was sent to Chloride Incorporated requesting that the problems identified during this inspection be resolved. Chloride Incorporated was requested to send the Division a report explaining what action will be taken, including a schedule, for the resolution of these problems.

DLB/lde

ATTACHMENT

Appendix L

Attachment

CHLORIDE INCORPORATED
Columbus, Georgia
June 10, 1982

Main Plant

1. Spillage of lead oxide could occur at the temporary lead oxide transfer station for the main plant. The in-plant transfer system should be made operational or an adequate spill prevention procedure should be developed for the temporary system.

2. The potential exists for runoff contamination from the acid storage area. The old tanks should be removed from the site and precautions taken to prevent acid contamination runoff during periods of rainfall. Leaking water seals were observed on the acid transfer pumps. The seals should be replaced to prevent water accumulation in the area of the acid tanks.

3. There was a discharge from the roof drain of the main plant building. This discharge contained kerosene which was leaking from a storage drum. Although the kerosene leak was eliminated that day, the potential exists for leaks and spills in this area and corrective action should be taken to prevent future problems. In addition, the source of the discharge from the roof drain during periods of dry weather should be identified and eliminated.

Lead Smelter

4. The potential for a discharge exists at the collection area for the cracking of batteries and scrap lead storage. During periods of rainfall the beam at the end of the collection channel would not be sufficient to contain contaminated runoff.

5. The area where impurities from the lead oxide process are stored in barrels is not diked and this area was identified as a source of potential contaminated runoff.

6. Storm water and plant washdown from the smelter and the lead oxide plant drain to a small settling basin and then to the drainage ditch. Just outside the plant property this drainage ditch contained significant quantities of lead based on our sampling results of May 13, 1982.

7. Batteries to be reclaimed were observed stacked in front of the smelter building. The potential exists for acid spillage and runoff in this area. Batteries should be removed and the practice of storage in this area should be discontinued.

8. Oil and steam cleaning wastes have been allowed to run off the plant property in the area of the maintenance building. Although this practice has been stopped, additional cleanup in this area is needed.

Appendix C

9. The cooling water discharges to the drainage area behind the satellite plant should be eliminated or permitted through the Division.

General

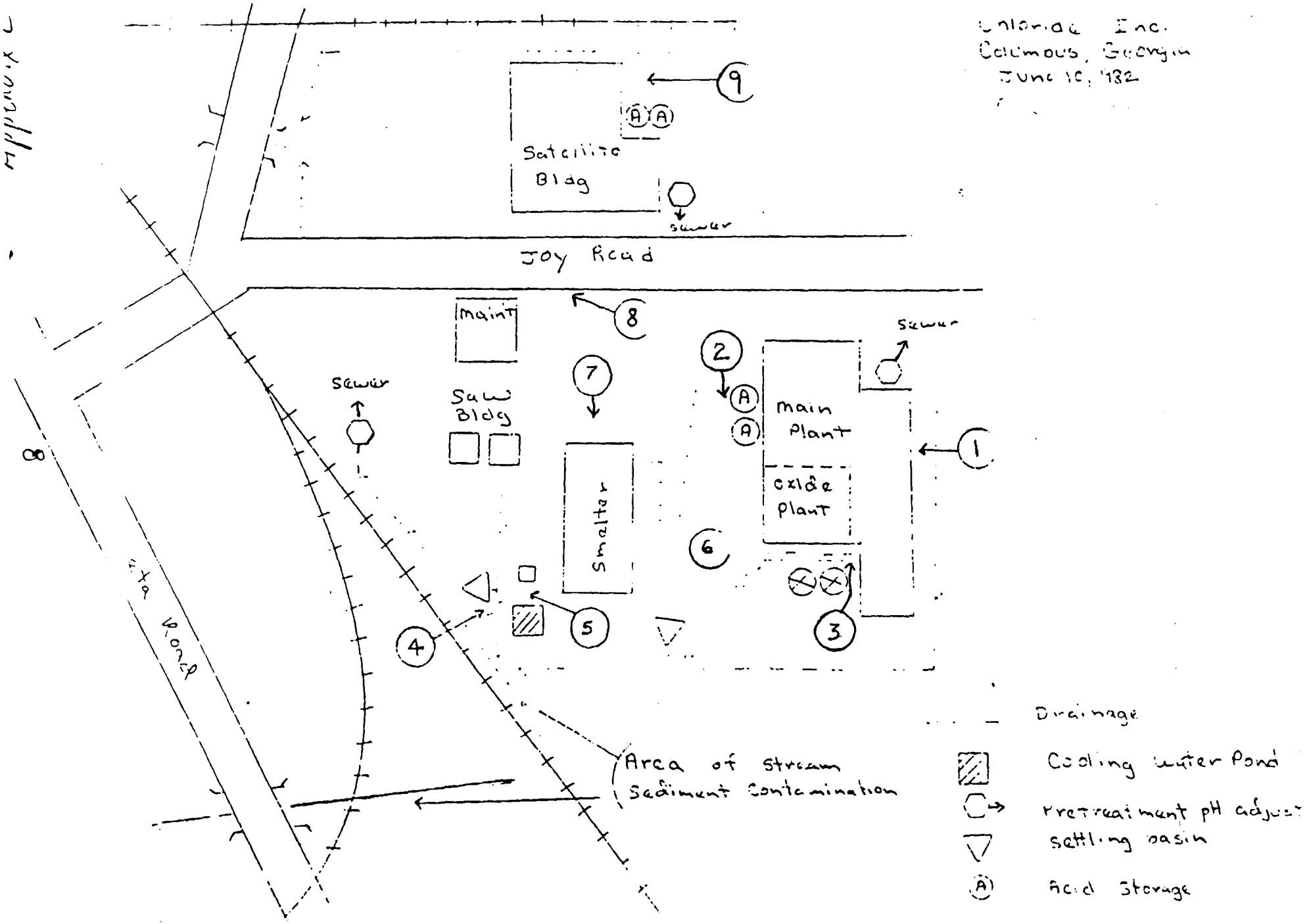
1. The discharge of lead-contaminated runoff should be eliminated. Chloride Incorporated should provide a report addressing the overall problem with contaminated runoff from the plant site and should include a plan for corrective action as well as a schedule for completion.

2. The Division's May 13, 1982 sampling data indicated that the discolored sediment in the stream behind the plant property is contaminated with lead. The lead contamination is visible in the stream from the plant property down to Cusseta Road. This contaminated sediment must be removed and disposed of in accordance with all State, City, and Federal regulations.

3. The pretreatment system for discharges to the municipal system consist of pH neutralization with anhydrous ammonia. Discharges to the City of Columbus' system must comply with the industrial pretreatment requirements for the City. It appeared that the acid wastes from the processes were being adequately neutralized, however, there were no provisions for removal of lead.

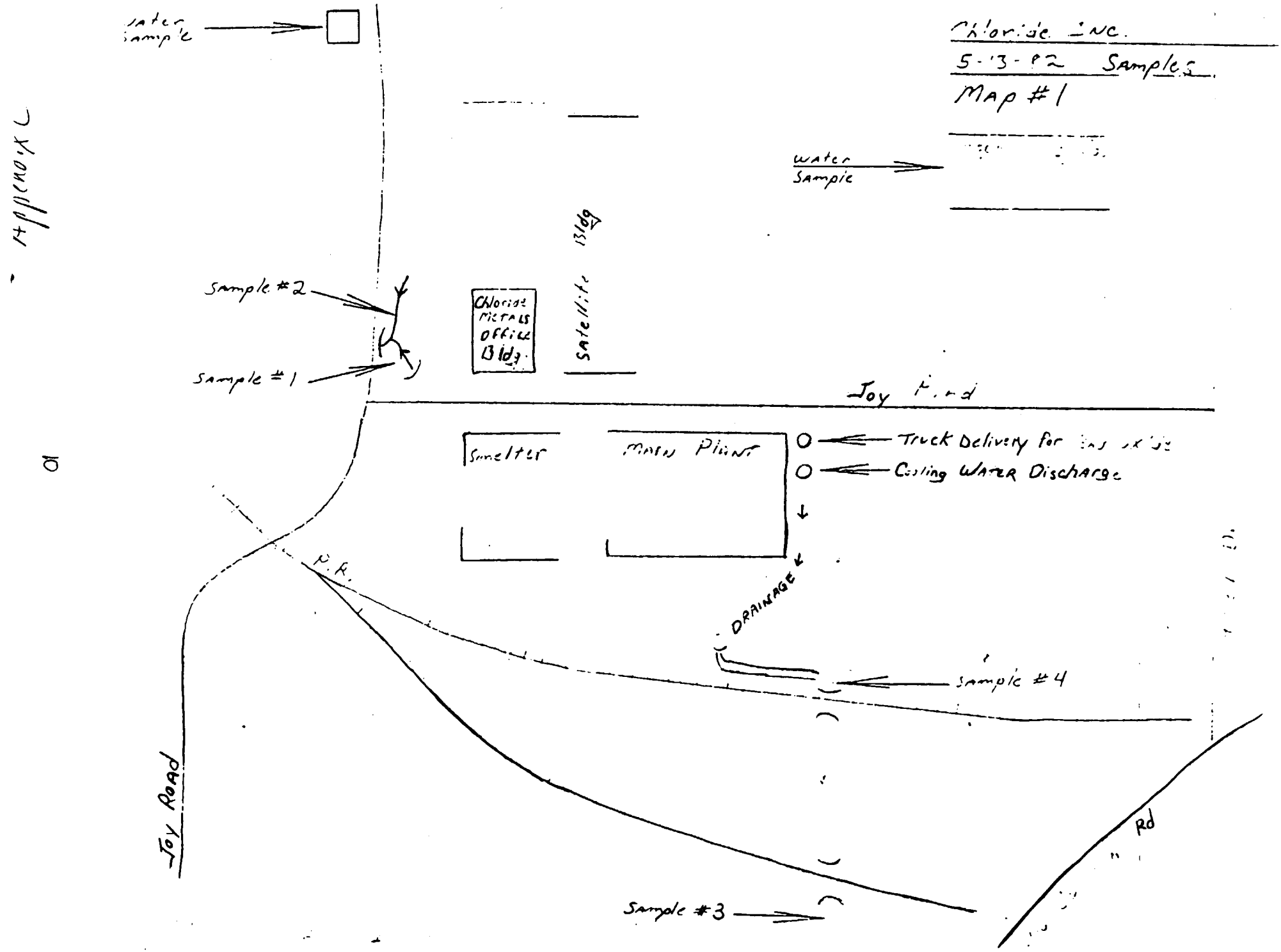
Appendix J

Chloride Inc.
Columbus, Georgia
June 10, 1982



Appendix C

ple	Date/ Time	Analyses Cd	Cu	Pb	Ni	Sb	*Refer to Map #1 Sample Location/Comments
e #1	5-13-82 12:25pm			6100 ug/l			Stream in front of Chloride Metals offi building on Joy Road. (See location map
e #2	5-13-82 12:25pm			155 ug/l			Stream in front of Chloride Metals offi building on Joy Road. (See location map
e #3	5-13-82 12:52pm			3950 ug/l			Stream at Cusseta Road
e #3 ent	5-13-82 12:52pm			102 mg/kg			Stream at Cusseta Road. (81.3% Solids)
e #4	5-13-82 1:20 pm			3350 ug/l			Stream just outside of plant property from the Main Plant.
#4 ent	5-13-82 1:20 pm			12400 mg/kg			Same as above. (77.3% Solids)
							**Refer to Map #2
e #1	6-10-82 3:45 pm	< 50 ug/l	60 ug/l	10,500 ug/l	< 50 ug/l	110 ug/l	Stream at Cusseta Road (Same location a sample #3 collected 5-13-82)
ent	6-10-82 3:45pm	< 5 mg/kg	< 5 mg/kg	740 mg/kg	< 5 mg/kg	16 mg/kg	Same as above. (77.4% Solids)
e #2	6-10-82 4:00 pm	3,350 ug/l	705 ug/l	32,000 ug/l	225 ug/l	4,000 ug/l	Discharge to sewer system. One-half of sample is from the Main Plant. One-four of sample from the Smelter. One-fourth of sample taken from the Satellit Plant
e #3 ent	6-10-82 4:10 pm	< 5 mg/kg	50 mg/kg	8,300 mg/kg	< 5 mg/kg	195 mg/kg	Compressor at the Main Plant (65.4% Soli
e #4	6-10-82 4:20 pm	< 50 ug/l	< 50 ug/l	32,000 ug/l	< 50 ug/l	140 ug/l	Discharge to stream inside plant propert
#4 ent	6-10-82 4:20 pm	6.3 mg/kg	25 mg/kg	46,000 mg/kg	< 5 mg/kg	565 mg/kg	Same as above. (71.2% Solids)


Chloride Inc.
5-13-92 Samples
Map #1
Water Sample
Water Sample
Sample #2
Sample #1
Chloride Metals Office Bldg.
Satellite Bldg.
Joy Road
Smelter
Mill Plant
Truck Delivery for Chloride
Cooling Water Discharge
N.R.
DRAINAGE
Sample #4
Joy Road
Sample #3
Rd

Chloride INC.

6-10-82

Map #2

REFERENCE NO. 7

Department of Natural Resources

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

270 WASHINGTON STREET S.W.
ATLANTA, GEORGIA 30334

November 18, 1982

Mr. Laurence W. Hahn
Manager of Manufacturing Engineering
Chloride Incorporated
Automotive Division
3507 50th Street South
Post Office Box 1124
Tampa, Florida 33601

RE: Chloride, Inc.
Columbus, Georgia

Dear Mr. Hahn:

On November 2, 1982, a follow-up inspection was conducted at Chloride, Inc. in Columbus, Georgia to verify the status of action taken to correct problems outlined in our letter of June 18, 1982. Most of the problems noted have been corrected; however, the following problems remain:

1. The cooling water discharge at the Satellite plant has not been eliminated. We understand that new acid tanks are being installed in this area which includes an overflow prevention sump pump to the pH neutralization pit. When this is installed, the cooling water will be connected to the line to the neutralization pit. Please notify this office when the work has been completed.

2. Overall plant site runoff was identified in our June 10, 1982 inspection as one of the major sources contributing to downstream lead contamination. In our August 24, 1982 letter to Chloride, Inc., the engineering design and drawings for overall plant site runoff control were to be submitted to the Division by October 1, 1982. To date, this has not been received. Please submit the plans or drawings explaining how overall plant contaminated runoff will be controlled.

3. The lead contaminated sediment has not been removed from the stream. Please provide this office with a proposal and schedule addressing the sediment removal.

Please provide this office with a status report on the items noted above by December 15, 1982. The Division will conduct follow-up inspections to

Appendix C

assure that appropriate action is being taken to correct these problems. We will continue to monitor Chloride, Inc.'s compliance with the schedule of upcoming actions proposed in your letter of August 4, 1982.

Sincerely,

Jack C. Dozier

Jack C. Dozier, P.E., Chief
Water Quality Control Section

JCD/dlbe

REFERENCE NO. 8

RECEIVED 1984

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Chloride Auto. Batteries - Satellite	Joy Road (North)				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Columbus	GA	31903	Muscogee	106	3
09 COORDINATES LATITUDE	**LONGITUDE**				
32°26'12.0"	084°55'56.0"				

10 DIRECTIONS TO SITE (Starting from nearest public road)

From the intersection of I-185 and St. Marys Road east of Columbus, GA. Proceed west on St. Marys Road to first intersection and turn left (South). Continue south on this road to right hand behind, turn left then take first left and continue to Joy Road. Turn right onto Joy Road and proceed to plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Chloride, Inc.	P.O. Box 1124			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**	
Tampa	FL	33601	(813) 248-3161	
07 OPERATOR (If known and different from owner)	**08 STREET** (Business, mailing, residential)			
Chloride Auto. Batteries	P.O. Box 3483 Joy Road (North)			
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**	
Columbus	GA	31903	(404 689-0761	

13 TYPE OF OWNERSHIP (Check one)

☐ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☒ F. OTHER: Corporate (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 9/8/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES ☐ NO DATE 3/20/83 (MONTH DAY YEAR)

BY (Check all that apply) ☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1972 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Sulfuric acid and neutralized sulfuric acid. Lead oxide (potential)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Low - During filling, spills of sulfuric acid are collected, neutralized and discharged into POTW. Lead battery scrap sent to recycler (chloride metals).

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
Grady E. Curl	Manufacturing Engineer/Chloride Inc.		(813 248-3161
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
Thomas M. Westbrook TMW	DNR	E.P.D.	(404 656-7404	3/6/84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

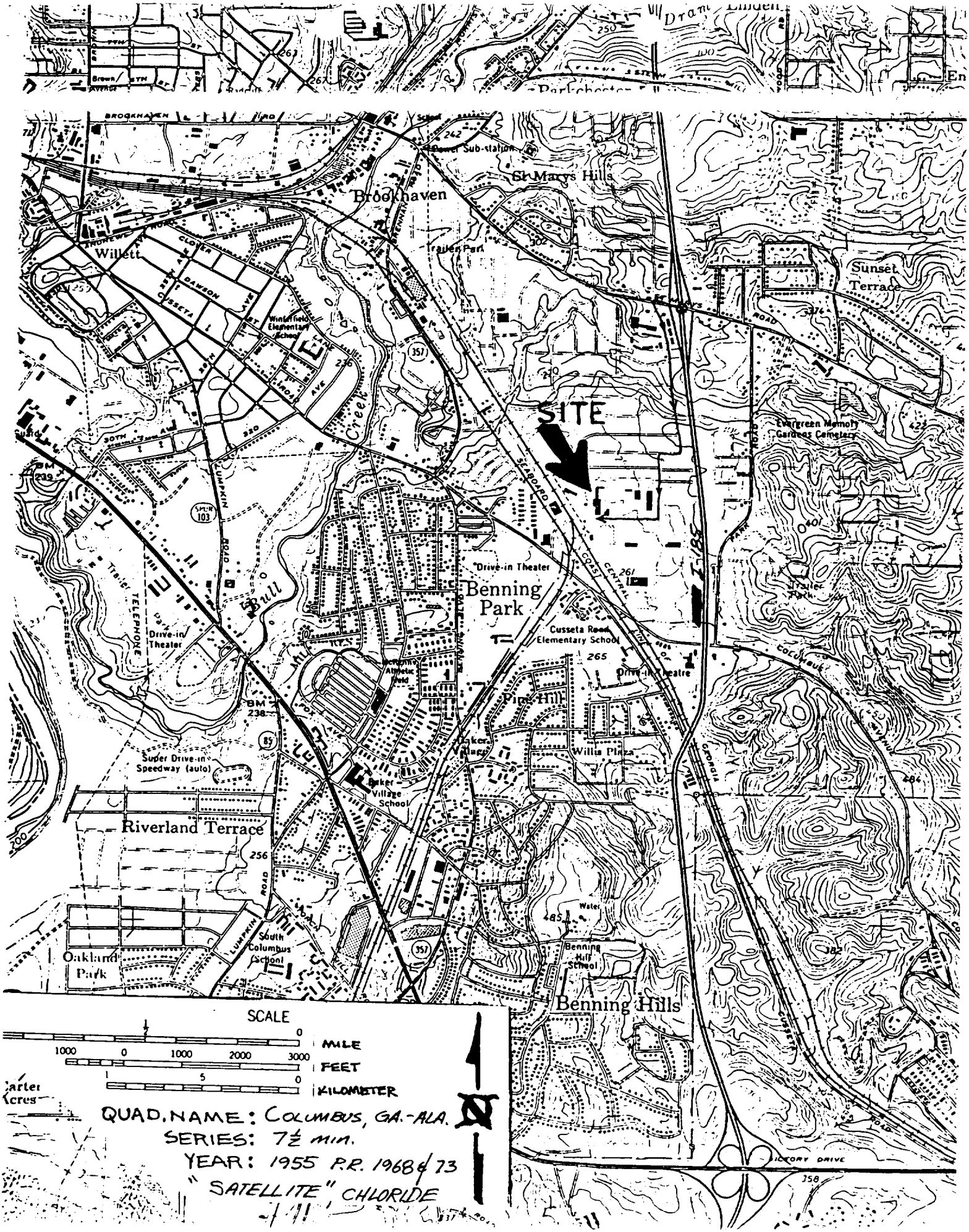
01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION


SITE
Brookhaven
St. Marys Hills
Willett
Trailer Park
Sunset Terrace
Winterfield Elementary School
Creek
Evergreen Memory Gardens Cemetery
SEABOARD COAST LINE
Drive-in Theater
Benning Park
Bull
Trailer Park
Drive-in/ Theater
TELEPHONE
Cusseta Road Elementary School
Drive-in Theatre
Pine Hill
Baker Village
Willis Plaza
Super Drive-in Speedway (auto)
Baker Village School
Riverland Terrace
South Columbus School
Oakland Park
Benning Hill School
Benning Hills
SCALE
MILE
FEET
KILOMETER
QUAD. NAME: COLUMBUS, GA.-ALA.
SERIES: 7½ min.
YEAR: 1955 P.R. 1968 & 73
"SATELLITE" CHLORIDE

P.A. - CHLORIDE AUTO BATTERIES/SATTELITE

JUSTIFICATION - Low Priority #GAD991275140

Chloride Automotive Batteries - Satellite Plant is presently an active and RCRA regulated facility. State files indicate recommendation to withdraw interim status, Part "A" as the operation recycles small quantities of produced wastes. Also, plant may be ceasing operations at this writing. Files indicate only minor regulatory action since 1980 - (cooling water discharge into a non-permitted source which was corrected). Prior to 1980 the operation was run along similar lines as the Main Plant (GAD991274929) and was affiliated with Chloride Metals and is owned by the same parent company - Chloride, Inc. I believe that due to operational history and proximity to the Main Plant and Metals facility - a low priority inspection should be required of the facility.

GAD991275140

DEPARTMENT OF NATURAL RESOURCES

RECEIVED

WASTE MANAGEMENT DATA SHEET

FEB 13 1984

MUNICIPAL SOLID WASTE

NAME AND LOCATION OF FACILITY
Chloride Automotive Batteries - Satellite Plant
Joy Road
Columbus, GA 31903

PERSON TO CONTACT
(ENTER THE NAME, ADDRESS, TITLE AND BUSINESS TELEPHONE NUMBER OF THE PERSON TO CONTACT REGARDING INFORMATION SUBMITTED ON THIS FORM).
Grady E. Curl, Manufacturing Engineer
P. O. Box 1124
Tampa, FL 33601
813/248-3161

DATES OF WASTE HANDLING
(ENTER THE YEARS THAT YOU ESTIMATE WASTE TREATMENT, STORAGE OR DISPOSAL BEGAN AND ENDED AT THE SITE. IF YOU SELECTED A FACILITY OFF-SITE PLEASE NOTE AND EXPLAIN IN "COMMENTS" SECTION.
Battery manufacturing and waste treatment started at this facility in 1976. The facility is still in operation.

GENERAL TYPE OF WASTE

1- ( ) ORGANICS
2- ( ) INORGANICS
3- ( ) SOLVENTS
4- ( ) PESTICIDES
5- ( ) HEAVY METALS
6- (xx) ACIDS
7- ( ) BASES
8- ( ) PCB's
9- ( ) MIXED MUNICIPAL WASTE
10- ( ) UNKNOWN
11- ( ) OTHER (SPECIFY)

WASTE QUANTITY (ESTIMATED)
750,000 gallons/year

HAS THERE EVER BEEN A SPILL OR DISCHARGE OF A HAZARDOUS SUBSTANCE FROM YOUR FACILITY? (BRIEFLY EXPLAIN THE NATURE OF THE RELEASE).
No

COMMENTS

(IF THERE IS ANY COMMENTS THAT YOU BELIEVE WOULD CLARIFY THE PAST WASTE HANDLING PRACTICES OF YOUR FACILITY OR OF FACILITIES YOU SELECTED TO HANDLE YOUR WASTE, PLEASE ELABORATE IN THE SPACE PROVIDED).

The only hazardous waste generated at this facility is sulfuric acid collected from battery filling and battery formation operations. This acid is neutralized and discharged into a POTW.

SIGNATURE AND TITLE

Grady E. Curl — 813/248-3161
NAME — TELEPHONE

P. O. Box 1124
STREET

Tampa, FL 33601
CITY — STATE — ZIP CODE

Grady E Curl — 9 Feb 84
SIGNATURE — DATE

REFERENCE NO. 9

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

Call made by: Rachael A. Takei Signature/Date: Rachael A. Takei 12/23/92
Date: October 29, 1992 Facility: Columbus Municipal Landfill
Time of call: 1115 EPA ID No.: GAD980556997

Person(s) contacted:	Vic Burchfield
Title/Position:	Manager, Water Quality Management
Organization:	Columbus Water Works
Telephone number:	(706)649-3400
Address (city/state):	Columbus, Georgia

General subject: Source of drinking water for Columbus, GA

Summary of conversation: The city gets their water from a surface water intake located on the north side of the Lake Oliver Dam, upstream from the landfill area. Mr. Burchfield stated that there are some wells in the rural area of the county, but that he had no records of where they might be. He suggested that I call the Health Department to see if they have any records. He also stated that Fort Benning has its own system.

Reference No. 10

COLUMBUS WATER WORKS

December 14, 1992

Ms. Rachael A. Takei
Environmental Specialist
Dynamac Corporation
Peachtree Center Tower
230 Peachtree Street, N.W. Suite 500
Atlanta, Georgia 30303

Reference: Water Main Information Requested Relative To Closing Municipal Landfill

Dear Ms. Takei:

Per your request, please find attached map indicating water mains with diameters of 8 inches or larger. These water mains are shown in green, generally along roadways.

Yours Very Truly,

COLUMBUS WATER WORKS

Steven R. Davis, Manager
Engineering Services

SRD/cal

Attachment (1 map)

1501 13th Avenue • P.O. Box 1600 • Columbus, Georgia 31993-3099 • (706) 649-3400

OVERSIZED

DOCUMENT

Reference No. 11

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

Call made by: Rachael A. Takei Signature/Date: Rachael A. Takei 12/23/92
Date: December 21, 1992 Facility: Columbus Municipal Landfill
Time of call: 1040 EPA ID No.: GAD980556997

Person(s) contacted:	Pat Cosby
Title/Position:	Engineer
Organization:	Columbus Water Works
Telephone number:	(706)649-3400
Address (city/state):	Columbus, Georgia

General subject: Water lines in Columbus

Summary of conversation: I asked Mr. Cosby if, since the 8-inch water lines ran along the major roads in Columbus by subdivisions, those subdivisions got their water from those lines. He stated that that was correct, all those subdivisions receive their water from the Columbus Water Works.

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

Call made by: Rachael A. Takei Signature/Date: Rachael A Take 12/23/92
Date: November 3, 1992 Facility: Columbus Municipal Landfill
Time of call: 1430 EPA ID No.: GAD980556997

Person(s) contacted:	Jack Hodges
Title/Position:	Manager
Organization:	Fort Benning Water Works
Telephone number:	(706)545-2916
Address (city/state):	Fort Benning, Georgia

General subject: Source of drinking water for Fort Benning

Summary of conversation: He stated that the main drinking water source is a surface water intake off the Upatoi Creek. Mr. Hodges also stated that there are nine wells on base, some of which are used for drinking water.

Follow-up with Mr. Hodges by Charlotte Hudson, November 20, 1992, time-1355: Four of the nine wells are used for drinking water. One is located in the Camp Darby Ranger training area. This is used off and on serving about 150 ranger students at a time. The other three are located at Uchee Creek, which is a recreational area. Mr. Hodges was uncertain how many people were served by these wells because they are still building there. These 3 wells are located in Alabama, outside the 4-mile radius of the landfill. It is not a blended system.

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

Call made by: Rachael A. Takei Signature/Date: Rachael A Takei 12/23/92
Date: October 29, 1992 Facility: Columbus Municipal Landfill
Time of call: 1550 EPA ID No.: GAD980556997

Person(s) contacted:	Roger Green
Title/Position:	Chief Operator
Organization:	Phenix City Utilities
Telephone number:	(205)291-4757
Address (city/state):	Phenix City, Alabama

General subject: Drinking water sources for Phenix City

Summary of conversation: Mr. Green stated that Phenix City gets its drinking water from a surface water intake just below Oliver Dam, approximately 1/2 mile downstream of the Columbus intake. He also said that, to his knowledge, there are no private drinking water wells in the area, but that there are no files maintained on private wells.

Follow-up with Mr. Green, by Rachael A. Takei, December 18, 1992, time-1100: Mr. Green stated that they do not have a map of Phenix City's water line distribution. He knows that their water lines do go below Seale Road, possibly as far as Brickyard Road. He said that he does not think that their lines extend past that.

1990 CPH-1-2

1990 Census of Population and Housing

Summary Population and Housing Characteristics

Alabama

Issued August 1991

U.S. Department of Commerce
Robert A. Mosbacher, Secretary
Rockwell A. Schnabel, Deputy Secretary

Economics and Statistics Administration
Michael R. Darby, Under Secretary
for Economic Affairs and Administrator

BUREAU OF THE CENSUS
Barbara Everitt Bryant, Director

Table 6. Household, Family, and Group Quarters Characteristics: 1990

[For definitions of terms and meanings of symbols, see text]

State County Place and [In Selected States] County Subdivision	Persons in households	All households	Family households			Nonfamily households				Persons per—		Persons in group quarters		
			Total	Married-couple family	Female householder, no husband present	Total	Householder living alone			Household	Family	Total	Institutionalized persons	Other persons in group quarters
							Total	65 years and over						
								Total	Female					
The State	3 948 185	1 506 798	1 103 835	850 327	201 220	402 955	358 078	154 191	123 608	2.62	3.13	92 402	51 583	40 819
COUNTY														
Autauga County	34 028	11 826	9 501	7 706	1 437	2 325	2 093	933	746	2 88	3 27	194	173	21
Baldwin County	97 144	37 044	28 142	23 512	3 716	8 902	7 923	3 717	2 874	2.62	3 06	1 136	759	377
Barbour County	24 844	9 218	6 687	4 869	1 518	2 531	2 340	1 218	961	2.70	3 26	573	539	34
Bibb County	16 333	5 745	4 478	3 626	650	1 267	1 164	628	518	2.84	3 29	243	225	18
Blount County	39 047	14 644	11 654	10 139	1 160	2 990	2 788	1 500	1 242	2.67	3 05	201	182	19
Bullock County	10 369	3 787	2 712	1 590	979	1 075	1 021	592	458	2.74	3.35	673	673	-
Butler County	21 687	7 935	5 825	4 261	1 289	2 110	1 987	1 174	925	2.73	3 29	205	205	-
Calhoun County	111 127	42 983	31 718	25 111	5 346	11 265	9 965	4 215	3 477	2.59	3 06	4 907	954	3 953
Chambers County	36 502	13 786	10 219	7 564	2 169	3 567	3 289	1 794	1 429	2.65	3 15	374	363	11
Cherokee County	19 466	7 466	5 860	4 984	666	1 606	1 523	828	653	2.61	3 01	77	76	1
Chilton County	32 228	12 114	9 352	7 773	1 218	2 762	2 552	1 358	1 073	2.66	3 09	230	212	18
Choctaw County	15 941	5 747	4 313	3 291	831	1 434	1 370	705	528	2.77	3 32	77	77	-
Clarke County	26 935	9 506	7 192	5 498	1 404	2 314	2 184	1 136	888	2.83	3 37	305	303	2
Clay County	13 084	5 003	3 794	3 169	495	1 209	1 153	646	525	2.62	3 09	168	168	-
Cleburne County	12 662	4 776	3 748	3 212	386	1 028	955	499	406	2.65	3 05	68	67	1
Coffee County	39 788	15 260	11 570	9 546	1 639	3 690	3 315	1 525	1 236	2.61	3 05	452	384	68
Colbert County	51 379	20 096	15 174	12 410	2 276	4 922	4 592	2 291	1 873	2.56	3 01	287	239	48
Conecuh County	13 948	5 259	3 898	2 926	808	1 361	1 302	750	596	2.65	3 18	106	92	14
Coosa County	10 907	4 017	3 095	2 469	476	922	855	419	306	2.72	3 17	156	156	-
Covington County	36 141	14 444	10 474	8 440	1 629	3 970	3 707	2 078	1 684	2 50	3 01	337	284	53
Crenshaw County	13 495	5 262	3 786	2 870	747	1 476	1 407	831	640	2 56	3 12	140	140	-
Cullman County	66 715	25 605	19 915	17 165	2 093	5 690	5 284	2 729	2 237	2 61	3 02	898	717	181
Dale County	47 225	17 574	13 334	10 818	2 052	4 240	3 709	1 428	1 127	2.69	3 15	2 408	306	2 102
Dallas County	47 196	17 033	12 402	7 770	4 038	4 631	4 322	2 163	1 693	2.77	3 36	934	566	368
DeKalb County	54 175	20 968	16 094	13 593	1 921	4 874	4 571	2 420	1 995	2.58	3 02	476	476	-
Elmore County	45 836	16 532	13 000	10 628	1 859	3 532	3 212	1 515	1 194	2.77	3 19	3 374	3 363	11
Escambia County	34 154	12 899	9 507	7 258	1 841	3 392	3 128	1 586	1 283	2.65	3.16	1 364	1 364	-
Etowah County	98 568	38 675	28 585	22 956	4 573	10 090	9 411	4 763	3 953	2.55	3 04	1 272	980	292
Fayette County	17 785	6 859	5 165	4 306	665	1 694	1 583	932	754	2.59	3 06	177	126	51
Franklin County	27 504	10 850	8 164	6 930	975	2 686	2 528	1 396	1 119	2.53	3 00	310	306	4
Geneva County	23 523	9 231	6 870	5 696	911	2 361	2 234	1 213	1 008	2.55	3 03	124	124	-
Greene County	10 083	3 512	2 532	1 475	894	980	917	488	353	2 87	3 50	70	70	-
Hale County	15 232	5 397	3 983	2 679	1 094	1 414	1 319	744	538	2 82	3 40	266	264	2
Henry County	15 260	5 769	4 320	3 336	779	1 449	1 345	767	609	2.65	3 13	114	103	11
Houston County	80 450	30 844	22 628	17 692	4 097	8 216	7 429	3 222	2 616	2.61	3 12	881	738	143
Jackson County	47 460	18 020	14 041	11 849	1 676	3 979	3 726	1 833	1 496	2.63	3 05	336	170	166
Jefferson County	638 382	251 479	176 573	129 641	39 530	74 906	66 633	26 851	21 781	2.54	3 10	13 143	8 463	4 680
Lamar County	15 536	6 005	4 512	3 777	571	1 493	1 416	814	653	2.59	3 07	179	162	17
Lauderdale County	78 134	30 905	22 966	19 144	3 113	7 939	7 235	3 414	2 807	2.53	3 00	1 527	633	894
Lawrence County	31 346	11 410	9 032	7 514	1 189	2 378	2 225	1 146	871	2.75	3 16	167	167	-
Lee County	82 724	33 097	20 115	15 336	3 675	12 982	8 635	2 001	1 539	2.50	3 11	4 422	703	3 719
Limestone County	52 404	19 685	15 277	12 794	1 935	4 408	4 077	1 791	1 456	2.66	3 09	1 731	1 589	142
Lowndes County	12 630	4 056	3 143	1 892	1 065	913	850	460	344	3.11	3 65	28	28	-
Macon County	22 611	8 483	5 535	3 119	2 056	2 948	2 482	1 137	855	2.67	3 36	2 317	563	1 754
Madison County	233 149	91 208	65 475	53 195	9 599	25 733	21 923	5 866	4 758	2.56	3 06	5 763	1 408	4 355
Marengo County	22 889	8 156	6 088	4 326	1 455	2 068	1 973	1 067	834	2.81	3 37	195	189	6
Marion County	29 219	11 521	8 700	7 391	1 013	2 821	2 650	1 432	1 174	2.54	2.99	611	570	41
Marshall County	70 119	27 761	20 927	17 403	2 790	6 834	6 332	3 136	2 594	2 53	2 97	713	574	139
Mobile County	371 562	136 899	100 814	73 628	22 877	36 085	31 851	12 548	9 841	2 71	3 23	7 081	3 951	3 130
Monroe County	23 801	8 412	6 355	4 845	1 261	2 057	1 915	972	756	2 83	3 35	167	160	7
Montgomery County	201 578	77 173	53 573	37 973	13 254	23 600	20 578	7 609	6 186	2 61	3 21	7 507	4 276	3 231
Morgan County	98 295	37 799	28 651	23 679	3 893	9 148	8 370	3 384	2 706	2 60	3 05	1 748	1 600	148
Perry County	12 145	4 201	3 102	1 994	945	1 099	1 049	605	468	2 89	3 50	614	138	476
Pickens County	20 456	7 568	5 658	4 179	1 236	1 910	1 822	1 039	787	2 70	3 21	243	222	21
Pike County	25 824	10 314	6 949	5 052	1 606	3 365	2 892	1 432	1 163	2 50	3 11	1 771	214	1 557
Randolph County	19 671	7 553	5 640	4 532	874	1 913	1 814	1 006	800	2 60	3 09	210	204	6
Russell County	46 286	17 499	12 736	9 045	3 053	4 763	4 286	1 825	1 392	2 65	3 17	574	406	168
St Clair County	48 453	17 666	14 094	12 032	1 597	3 572	3 265	1 486	1 194	2 74	3 13	1 556	1 530	26
Shelby County	97 539	35 985	27 767	24 095	2 862	8 218	7 034	1 886	1 483	2 71	3 14	1 819	582	1 237
Sumter County	15 434	5 545	3 914	2 417	1 286	1 631	1 475	778	590	2 78	3.42	740	142	598
Talladega County	71 728	26 448	20 195	15 589	3 752	6 253	5 782	2 810	2 252	2 71	3 18	2 379	1 854	525
Tallapoosa County	38 237	14 700	10 992	8 507	2 046	3 708	3 445	1 827	1 454	2 60	3 08	589	575	14
Tuscaloosa County	141 179	55 354	37 355	28 653	7 194	17 999	14 272	4 795	3 813	2.55	3 13	9 343	3 574	5 769
Walker County	66 859	25 554	19 534	16 072	2 723	6 020	5 608	2 957	2 402	2.62	3 06	811	651	160
Washington County	16 604	5 709	4 548	3 648	725	1 161	1 096	556	431	2 91	3 35	90	90	-
Wilcox County	13 355	4 415	3 289	2 080	1 033	1 126	1 055	588	463	3.02	3 64	213	210	3
Winston County	21 815	8 544	6 594	5 658	705	1 950	1 835	937	748	2.55	2 97	238	211	27
PLACE AND COUNTY SUBDIVISION														
Abbeville city, Henry County	3 081	1 214	852	609	199	362	341	206	177	2 54	3 13	92	90	2
Adamsville city, Jefferson County	4 142	1 484	1 219	1 013	155	265	245	123	101	2 79	3 13	19	-	19
Addison town, Winston County	626	263	194	152	36	69	61	30	27	2 38	2 80	-	-	-
Akron town, Hale County	468	182	120	63	51	62	60	42	30	2 57	3.31	-	-	-
Alabaster city, Shelby County	14 455	4 921	4 154	3 556	486	767	665	214	185	2 94	3 23	277	244	33
Albertville city, Marshall County	14 356	5 838	4 248	3 430	681	1 590	1 486	751	648	2 46	2 95	151	142	9
Alexander City city, Tallapoosa County	14 630	5 745	4 152	3 093	913	1 593	1 488	824	683	2 55	3 08	287	287	-
Aliceville city, Pickens County	2 933	1 200	763	488	246	437	423	283	233	2 44	3 20	76	76	-
Allgood town, Blount County	464	163	138	110	20	25	22	14	13	2.85	3 09	-	-	-
Altoona town	910	380	264	202	48	116	114	64	50	2.39	2 98	50	50	-
Blount County	3	1	1	1	-	-	-	-	-	3 00	3 00	-	-	-
Etowah County	907	379	263	201	48	116	114	64	50	2 39	2 98	50	50	-
Andalusia city, Covington County	9 120	3 812	2 556	1 902	551	1 256	1 167	603	513	2.39	3 00	149	109	40
Anderson town, Lauderdale County	339	144	105	89	15	39	38	22	17	2 35	2 84	-	-	-
Anniston city, Calhoun County	26 160	10 807	7 250	4 916	2 009	3 557	3 298	1 589	1 312	2 42	3 03	463	404	59
Arab city	6 256	2 592	1 909	1 575	275	683	645	320	281	2 41	2 88	65	65	-
Cullman County	22	10	9	7	1	1	1	1	1	2 20	2 33	-	-	-
Marshall County	6 234	2 582	1 900	1 568	274	682	644	319	280	2 41	2 89	65	65	-
Ardmore town, Limestone County	1 090	439	315	236	64	124	118	64	60	2 48	3 02	-	-	-
Argo town	930	332	270	242	23	62	56	27	17	2 80	3 15	-	-	-
Jefferson County	59	21	15	15	-	6	6	4	2	2 81	3 53	-	-	-
St Clair County	871	311	255	227	23	56	50	23	15	2 80	3 13	-	-	-
Arley town, Dale County	743	285	200	151	42	85	84	47	41	2 61	3 24	-	-	-
Arley town, Winston County	338	123	102	84	14	21	19	13	9	2 75	3 07	-	-	-

REFERENCE NO. 16

Water Resources Data Georgia Water Year 1991

by W.R. Stokes III, R.D. McFarlane, and G.R. Buell

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT GA-91-1
Prepared in cooperation with the State of Georgia
and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Georgia, write to

District Chief
U.S. Geological Survey
Water Resources Divison
Peachtree Business Center, Suite 130
Atlanta, Georgia 30360

1992

APALACHICOLA RIVER BASIN

02341500 CHATTAHOOCHEE RIVER AT COLUMBUS, GA.

LOCATION.–Lat 32°27'45", long 84°59'52", Muscogee County, Ga.-Russell County, Ala., Hydrologic Unit 03130003, on left bank at downstream side of Central of Georgia railway bridge at Columbus, 0.5 mi downstream from Eagle and Phenix Dam, 1.2 mi downstream from City Mills Dam, 2.6 mi downstream from North Highlands Dam, 3.3 mi downstream from Oliver Dam, 17.5 mi downstream from Bartletts Ferry Dam, and at mile 159.9.

DRAINAGE AREA.–4,670 mi^2, approximately.

PERIOD OF RECORD.–August 1929 to current year. Records for December 1912, published in WSP 322, have been found to be unreliable and should not be used.

REVISED RECORDS.–WSP 1082: 1943(M). WDR GA-90-1: 1967(M), 1969(M), 1971-72(M). See also period of record.

GAGE.–Water-stage recorder. Datum of gage is 183.14 ft above National Geodetic Vertical Datum of 1929. Dec. 1-31, 1912, nonrecording gage at site 800 ft upstream at datum 2.0 ft higher, and Aug. 23, 1929, to Sept. 30, 1975, recording gage at present site, at datum 2.0 ft higher. Oct. 1, 1963, to Sept. 30, 1966, water-stage recorder at Walter F. George Reservoir, and since Oct. 1, 1966, water-stage recorder at Alabama State Docks used as auxiliary gage for this station.

REMARKS.–Estimated daily discharges: Sept. 6-13, 16, 18, 19, 25, and 26. Records fair except those less than 2,500 ft^3/s and those for the period of estimated daily discharges, which are poor. Flow regulated by Lake Sidney Lanier since January 1956, West Point Lake since October 1974, and by Lake Harding since 1939. (See "Lakes and Reservoirs in Apalachicola River Basin", stations 02334400, 02339400, and 02341000.) Records of chemical analyses for the period February 1968 to May 1972 are published in reports of the U.S. Geological Survey.

AVERAGE DISCHARGE.–62 years, 6,748 ft^3/s, 19.62 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.–Maximum discharge, 145,000 ft^3/s, Feb. 26, 1961; maximum gage height, 47.8 ft, Feb. 25, 1961 datum then in use; minimum discharge, 294 ft^3/s, Oct. 23, Nov. 14, 1931; minimum daily, 480 ft^3/s, Oct. 31, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.–Maximum discharge known since at least 1827, 198,000 ft^3/s, Mar. 15, 1929, computation of flow at North Highlands Dam before redevelopment; maximum stage known, 53.2 ft, Mar. 16, 1929, datum in use prior to 1975.

EXTREMES FOR CURRENT YEAR.–Maximum discharge, 40,400 ft^3/s, May 12; maximum gage height, 19.80, May 12; minimum daily discharge, 1,410 ft^3/s, Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4970	4950	1410	6160	10400	12600	3590	14500	7300	5260	8020	3660
2	5120	5390	1500	6910	5200	19200	2930	11000	13100	7620	7420	8890
3	3920	1430	3440	6910	3810	12900	4030	12200	11300	7000	5090	9880
4	6270	1520	4840	6610	9340	14500	7170	7040	9620	8090	5800	11200
5	6390	3270	6650	2150	11600	14300	5370	8400	8970	8630	7220	9810
6	2150	5070	6520	1990	10100	13300	3780	16000	8900	5780	7880	8800
7	2060	4500	6130	4140	10300	13800	3730	21700	6910	2910	7860	7000
8	3440	6270	1710	4600	10100	14000	4920	21100	2690	7640	7980	1900
9	4300	6000	1880	5570	6330	12500	8110	23000	2310	8070	8220	6000
10	6420	1940	4610	5230	2180	6890	12300	27800	4700	8550	5530	6000
11	5930	2340	5960	4160	4970	9370	8620	29500	6750	8030	2520	10000
12	3940	5420	5300	2170	3780	10400	10400	32000	7200	6230	6340	9800
13	2300	4100	4050	2130	6300	10400	3120	27300	7490	4380	6880	9800
14	2050	4660	2240	9010	4430	10100	3010	21400	7090	2700	7890	4660
15	6450	4520	1580	12500	4820	8530	5520	20200	3010	7490	12300	2220
16	7370	4020	1550	11600	2130	2890	6380	10100	2920	6480	13900	6800
17	7690	1940	3500	6870	2050	1830	6660	11400	8560	6610	8130	7330
18	7400	2140	4680	6110	4580	3860	6670	9080	7420	8270	7030	8600
19	7400	8020	5660	4620	4160	5200	8180	7940	9160	10400	6850	9000
20	1740	7270	5210	3890	5550	4690	4860	11100	10100	14600	5880	8860
21	1810	8260	10500	6000	5100	5140	2200	19300	11200	9220	6160	3370
22	5420	10300	8030	5880	5910	4660	5120	18100	2670	9010	5550	2680
23	4650	10600	3560	5240	5930	1900	6160	10500	2620	8470	4490	8840
24	2560	3140	2080	7120	5810	2290	6420	10800	8680	9050	2560	11200
25	2110	1460	1950	6690	7590	3600	6570	7610	7900	8340	2230	11900
26	2780	4270	3600	2820	11300	3470	5920	7490	9130	8320	3050	9200
27	1510	4500	3080	2520	11400	3950	4260	9740	21600	3270	8210	9380
28	1480	2330	5760	4030	13800	5010	4740	12800	24700	2950	9490	2890
29	2100	2400	2220	4530	—	11800	8160	12200	11100	7210	7340	1940
30	2750	2370	2520	14900	—	15400	13600	10800	2890	7210	6280	8630
31	3990	—	4430	17000	—	6930	—	7560	—	7480	5590	—
TOTAL	128470	134400	126150	190060	188970	265410	182500	469660	247990	225270	209690	220240
MEAN	4144	4480	4069	6131	6749	8562	6083	15150	8266	7267	6764	7341
MAX	7690	10600	10500	17000	13800	19200	13600	32000	24700	14600	13900	11900
MIN	1480	1430	1410	1990	2050	1830	2200	7040	2310	2700	2230	1900

CAL YR 1990	TOTAL 3404570	MEAN 9328	MAX 88900	MIN 1340	MEAN† 8696	CFSM† 1.86	IN† 25.29
WTR YR 1991	TOTAL 2588810	MEAN 7093	MAX 32000	MIN 1410	MEAN† 7522	CFSM† 1.61	IN† 21.87

†ADJUSTED FOR CHANGE IN CONTENTS IN LAKE SIDNEY LANIER, WEST POINT LAKE, AND LAKE HARDING.

Reference No. 17

TELEPHONE CONTACT SUMMARY

DYNAMAC CORPORATION

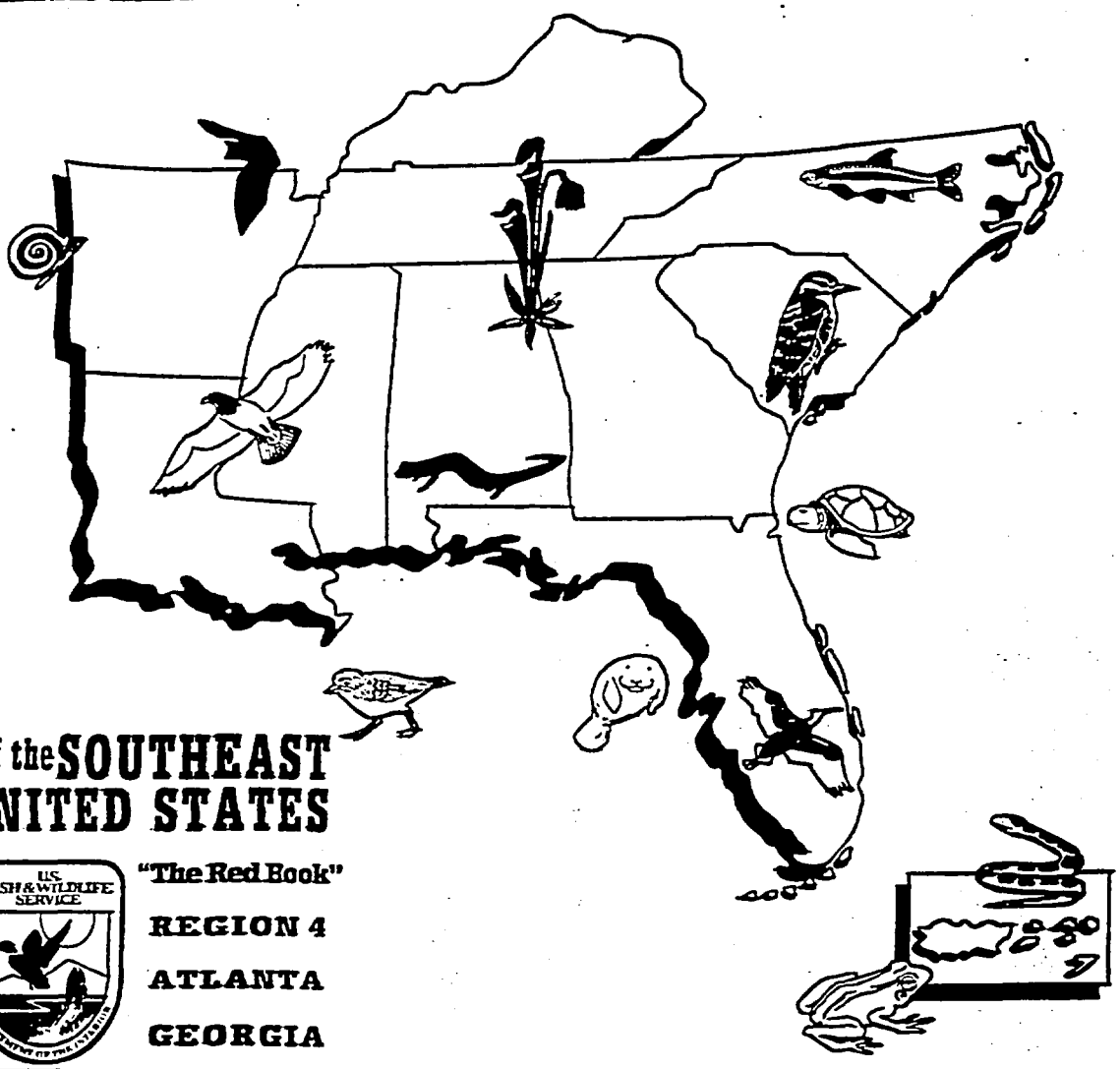
Call made by: Rachael A. Takei Signature/Date: Rachael A. Takei 12/23/92
Date: November 2, 1992 Facility: Columbus Municipal Landfill
Time of call: 1415 EPA ID No.: GAD980556997

Person(s) contacted: David Vaughn
Title/Position: Principal Engineer
Organization: Georgia Department of Natural Resources, EPD, Water Resources Management Branch, Water Resources Management Program
Telephone number: (404)656-3094
Address (city/state): Atlanta, Georgia

General subject: Surface water intakes off the Chattahoochee below Columbus

Summary of conversation: The only intakes downstream of Columbus are for industrial pruposes. There are no intakes for drinking water downstream of Columbus.

ENDANGERED & THREATENED SPECIES



of the SOUTHEAST UNITED STATES

"The Red Book"

REGION 4

ATLANTA

GEORGIA

ENDANGERED AND THREATENED SPECIES

OF THE

SOUTHEASTERN UNITED STATES

(THE RED BOOK)

Prepared by:

U.S. Fish and Wildlife Service
Southeast Region
Atlanta, Georgia

January 1992

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4/22/92

Federally Listed Species by State

GEORGIA

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

Mammals	General Distribution
Bat, gray (Myotis grisescens) - E	Northwest, West
Bat, Indiana (Myptis sodalis) - E	Extreme Northwest
Manatee, West Indian (Trichechus manatus) - E	Coastal waters
Panther, Florida (Felis concolor coryi) - E	Entire State
Whale, finback (Balaenoptera physalus) - E	Coastal waters
Whale, humpback (Megaptera novaeangliae) - E	Coastal waters
Whale, right (Eubalaena glacialis) - E	Coastal waters
Whale, sei (Balaenoptera borealis) - E	Coastal waters
Whale, sperm (Physeter catodon) - E	Coastal waters
Birds	
Eagle, bald (Haliaeetus leucocephalus) - E	Entire State
Falcon, American peregrine (Falco peregrinus anatum) - E	North
Falcon, Arctic peregrine (Falco peregrinus tundrius) - T	Coast, Northwest
Plover, piping (Charadrius melodus) - T	Coast
Stork, wood (Mycteria americana) - E	Southeastern swamps
Warbler, Bachman's (Vermivora bachmanii) - E	Entire State
Warbler, Kirtland's (Dendroica kirtlandii) - E	Coast
Woodpecker, ivory-billed (Campephilus principalis) - E	South, Southwest
Woodpecker, red-cockaded (Picoides [=Dendrocopos] borealis) - E	Entire State
Reptiles	
Alligator, American (Alligator mississippiensis) - T(S/A)*	Coastal plain
Snake, eastern indigo (Drymarchon corais couperi) - T	Southeast

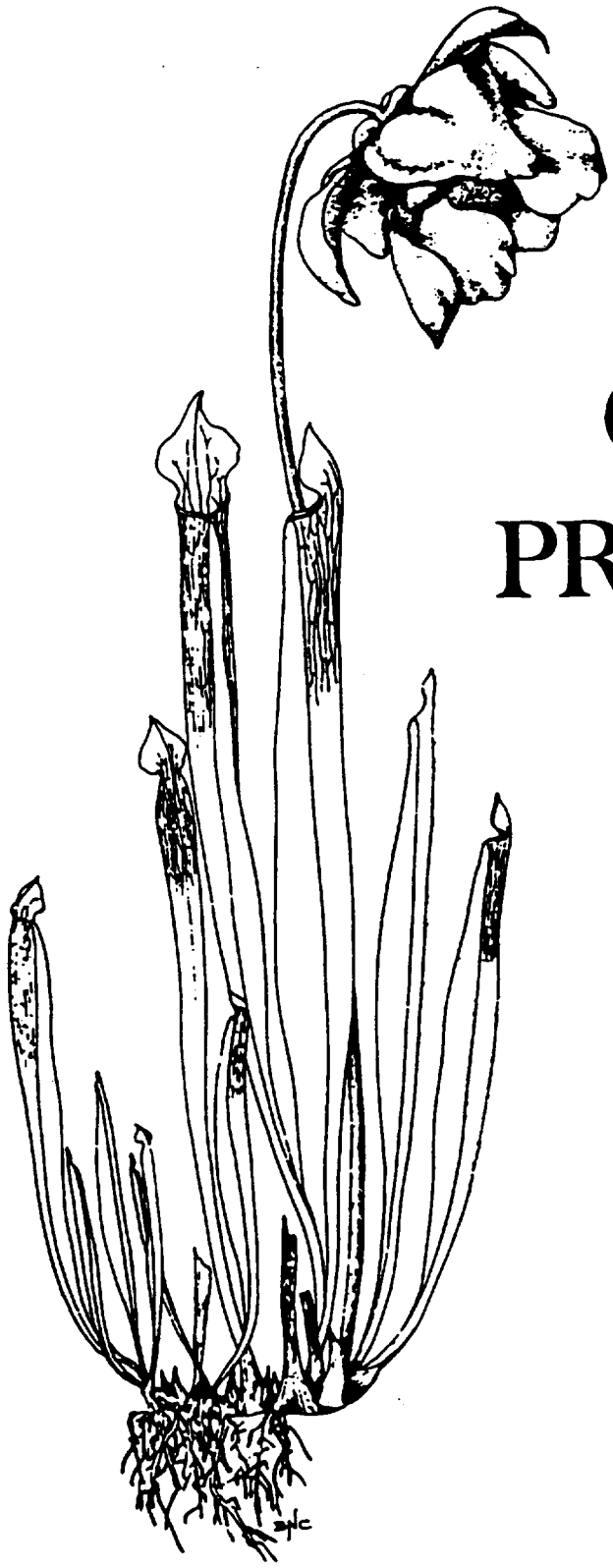
*Alligators are biologically neither endangered nor threatened. For law enforcement purposes they are classified as "Threatened due to Similarity of Appearance." Alligator hunting is regulated in accordance with State law.

GEORGIA (cont'd)

	General Distribution
Turtle, Kemp's (Atlantic) ridley (Lepidochelys kempii) - E	Coastal waters
Turtle, green (Chelonia mydas) - T	Coastal waters
Turtle, hawksbill (Eretmochelys imbricata) - E	Coastal waters
Turtle, leatherback (Dermochelys coriacea) - E	Coastal waters
Turtle, loggerhead (Caretta caretta) - T	Coastal waters
Fishes	
Darter, amber (Percina antesella) - E,CH	Conasauga R., Murray County
Darter, goldline (Percina aurolineata - T	Upper Coosa River System
Darter, snail (Percina tanasi) - T	S. Chickamauga Cr., Catoosa County
Logperch, Conasauga (Percina jenkinsi) - E,CH	Conasauga R., Murray County
Shiner, blue (Cyprinella caerulea) - T	Conasauga and Coosawattee Rivers, Holly, Rock, Perry, and Turniptown Creeks
Sturgeon, shortnose (Acipenser brevirostrum) - E	Coastal rivers
Plants	
Amphianthus pusillus (little amphianthus) - T	Piedmont Region (17 Counties)
Baptisia arachnifera (hairy rattleweed) - E	Wayne, Brantley Counties
Helonias bullata (Swamp pink) - T	Union County
Isoetes melanospora (black-spored quillwort) - E	Dekalb, Rockdale, Gwinnett Counties
Isoetes tegetiformans (mat-forming quillwort) - E	Columbia, Hancock, Greene, Putnam Counties
Isotria medeoloides (small whorled pogonia) - E	Rabun County
Lindera melissifolia (pondberry) - E	Wheeler County
Marshallia mohrii (Mohr's Barbara's-buttons) - T	Floyd County
Oxypolis Canbyi (Canby's dropwort) - E	Burke, Lee, Sumter Counties
Ptilimnium nodosum (harperella) - E	Greene County
Rhus michauxii (Michaux's sumac) - E	Elbert County

GEORGIA (cont'd)

	General Distribution
Sagittaria secundifolia (Kral's water-plantain) - T	Chattooga County
Silena polypetala (fringed campion) - E	Bibb, Crawford, Taylor, Talbot Counties
Sarracenia oreophila (green pitcher plant) - E	Towns County
Scutellaria montana (large-flowered skullcap) - E	Floyd, Gordon, Walker Counties
Spiraea virginiana (Virginia spiraea) - T	Walker, Dade Counties
Torreya taxifolia (Florida torreya) - E	Decatur County
Trillium persistens (persistent trillium) - E	Tallulah-Tugaloo River system, Rabun and Habersham Counties
Trillium reliquum (relict trillium) - E	Clay, Columbia, Early, Talbot, Lee Counties
Xyris Tennesseensis (Tennessee yellow-eyed grass) - E	Bartow County



GEORGIA'S PROTECTED PLANTS

Georgia Department of Natural Resources

GEORGIA'S PROTECTED PLANTS

Prepared by

Jerry L. McCollum and David R. Ettman

Illustrations by

Mary Anne Neville

Note: This report was first published September 15, 1977 through a cooperative agreement between the Georgia Department of Natural Resources and the Soil Conservation Service, USDA. Updates are issued occasionally.

Updated:
June 5, 1991
Georgia Department of Natural Resources
Game and Fish Division
Freshwater Wetlands and Heritage Inventory
2117 Hwy 278 SE
Social Circle, Georgia 30279

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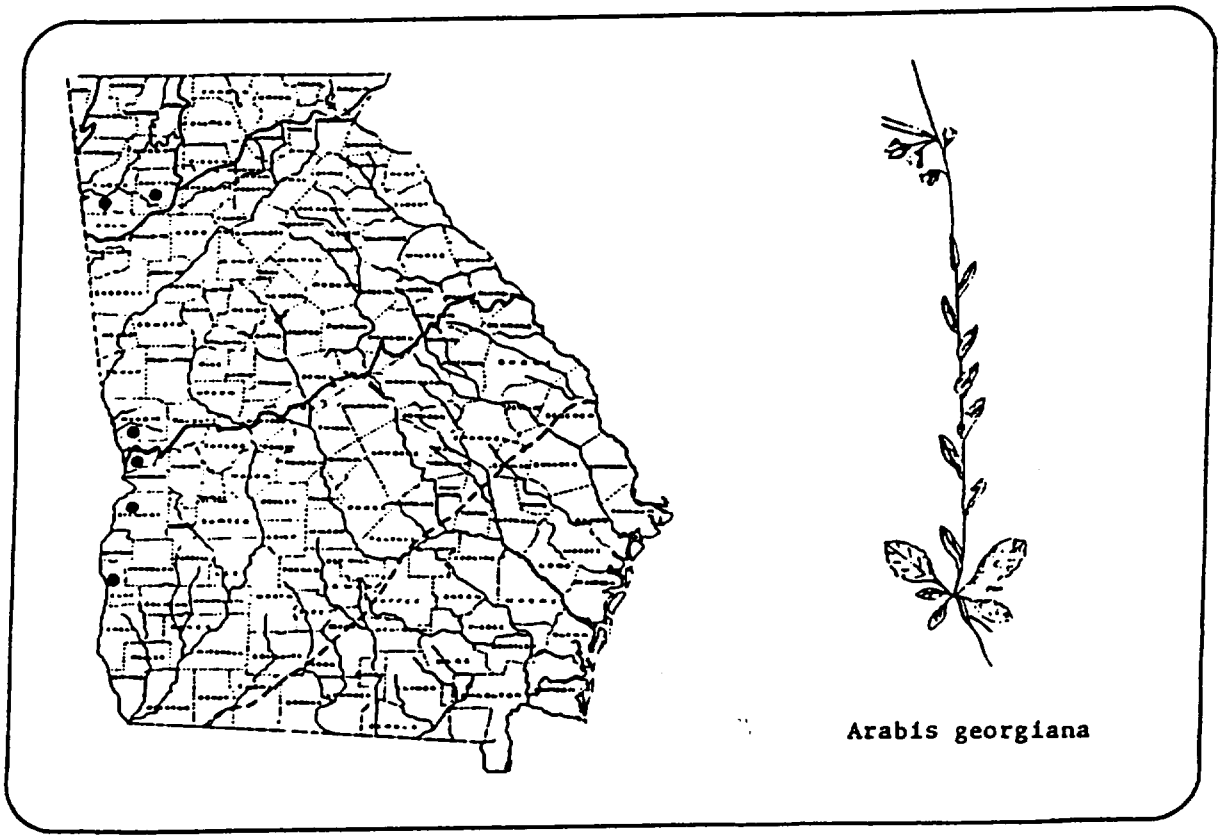
TABLE II COUNTY CROSS-REFERENCE INDEX

COUNTY	SPECIES REFERENCE NUMBERS	COUNTY TOTAL
Appling	39, 41, 42	3
Atkinson	39, 41, 44	3
Bacon	39, 42	2
Baker	3, 5, 6, 19	4
Baldwin		0
Banks	14, 56	2
Barrow	14, 48	2
Bartow	14, 15, 25, 31, 45	5
Ben Hill	18, 39, 41, 42	4
Berrien	30, 39, 41, 42, 44	5
Bibb	39, 44, 51	3
Bleckley		0
Brantley	4, 20, 41	3
Brooks	39, 41	2
Bryan	18, 28, 34, 41	4
Bulloch	18, 39, 41, 42, 44	5
Burke	14, 18, 31, 32, 41	5
Butts	1, 24	2
Calhoun	5, 29, 33, 39, 40, 41, 42	7
Camden	3, 21, 41	3
Candler	18, 39, 41, 42, 44	5
Carroll	14, 45, 58	3
Catoosa	26, 47	2
Charlton	21, 28, 39, 41, 42	5
Chatham	34, 41	2
Chattahoochee	12, 37	2
Chattooga	11, 22	2
Cherokee	14, 15, 31, 45, 58	5
Clarke	14, 15, 16, 31, 48	5
Clay	2, 5, 12, 37, 56	5
Clayton	14	1
Clinch	30, 39, 41	3
Cobb	14, 15, 16, 31, 45	5
Coffee	18, 28, 39, 41, 42	5
Colquitt	39, 41, 42	3
Columbia	1, 16, 18, 23, 44, 48	6
Cook	39, 41, 42	3
Coweta		0
Crawford	51	1
Crisp	34, 39, 41, 42	4
Dade	14, 15, 22, 56	4
Dawson	14, 15, 22, 58	4
Decatur	5, 12, 28, 29, 30, 45, 51, 53, 56	9
DeKalb	1, 14, 15, 24, 34, 45, 48, 56	8

TABLE II COUNTY CROSS-REFERENCE INDEX (CONTINUED)

COUNTY	SPECIES REFERENCE NUMBERS	COUNTY TOTAL
Lamar	45	1
Lanier	39, 41, 42	3
Laurens	18, 34, 41	3
Lee	3, 32, 34, 40, 41, 43	6
Liberty	34, 41	2
Lincoln	23	1
Long	18, 20, 28, 41	4
Lowndes	39, 41	2
Lumpkin	8, 14, 15	3
McDuffie		0
McIntosh	28, 30, 34, 41	4
Macon	20, 44	2
Madison	14	1
Marion	31	1
Meriwether	1	1
Miller	5, 6, 28, 29	4
Mitchell	39, 41, 42	3
Monroe	45	1
Montgomery	28, 44	2
Morgan	14, 45, 58	3
Murray	8, 14, 15, 22	4
Muscogee	2, 12, 23, 44, 48	5
Newton	1, 24	2
Oconee		0
Oglethorpe	1, 36, 48	3
Paulding	15, 45	2
Peach	31	1
Pickens	14, 15, 58	3
Pierce	20, 41	2
Pike	1, 14, 45	3
Polk	14, 15, 56	3
Pulaski	38	1
Putnam	1	1
Quitman	12, 37	2
Rabun	8, 10, 14, 15, 22, 27, 31, 43, 49, 50, 55	11
Randolph	37, 43	2
Richmond	18, 20, 23, 31, 44,	5
Rockdale	1, 16, 24, 48	4

Arabis georgiana Harper (BRASSICACEAE; CRUCIFERAE) THREATENED
Common Name(s): Georgia Rockcress
Range: Ala. and Ga.
Plant Type: Perennial herb

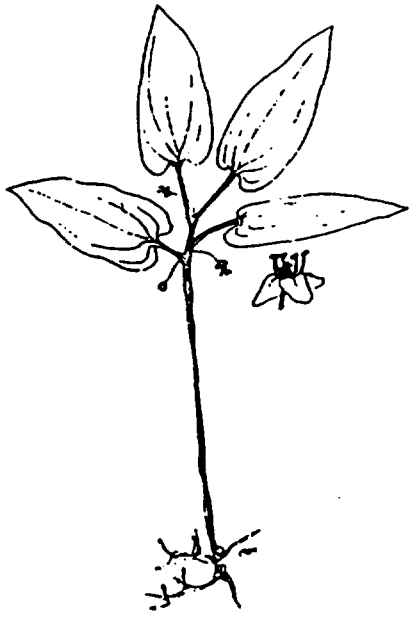


Description: This is an erect plant up to 90 cm. tall. The habit and leaf shape resemble other rockcresses, especially A. hirsuta and A. patens, thus mature fruit characters and type of pubescence on stem leaves are critical for identification. The basal leaves are rounded, toothed on the margins, purplish beneath, up to 3 cm. long, and are attached by long petioles. The stem leaves are arranged alternately lanceolate, somewhat clasping the stem without petioles, smooth to sparingly stellate-pubescent on the upper surface, and from 1-9 cm. long. The fruits form a dense mass at the stem apex. Each fruit stands erect as a slender (less than 1 mm. wide), relatively long (5-7 cm.) pod (silique) that splits in two leaving behind a thin, central septum. Flowering period: Mar.-Apr.; fruiting period: May-early July.

Habitat: Found on shaded riverbanks near or upon boulders or ledges of shale or granite-gneiss; also in thin soil of openly wooded, steep slopes.

Selected Reference(s):
Al-Shehbaz, I. A. 1988. The genera of Arabideae (Cruciferae; Brassicaceae) in the southeastern United States. Journal of the Arnold Arboretum 69(2):86-166.
Small, J. K. 1972. Manual of the Southeastern Flora. pg. 571. Hafner Publishing Co., New York, New York.

Croomia pauciflora (Nutt.) Torr. (STEMONACEAE; CROOMIACEAE) **THREATENED**
Common Name(s): Croomia
Range: Ala., Fla., and Ga., perhaps La.?
Plant Type: Perennial herb



Croomia pauciflora

Description: This is an inconspicuous plant that can be overlooked easily. It is also similar in appearance to carrion flower (Smilax herbacea), which occupies the same habitat. The two differ in that croomia has obvious alternate leaves and solitary flowers in the axils of the leaves, and carrion flower has alternate leaves that appear whorled when immature and groups of male and female flowers (carrion-scented) on different plants. Croomia may grow as large as 40 cm. tall; the leaves are ovate or oval, heart-shaped at the base, and 5-15 cm. long. The 4 flower parts are green tinged with purple, and 3-5 mm. long. The fruit is a capsule, 3-5 mm. long, rarely seen. Flowering period: April-May; fruiting period: late Spring-Summer.

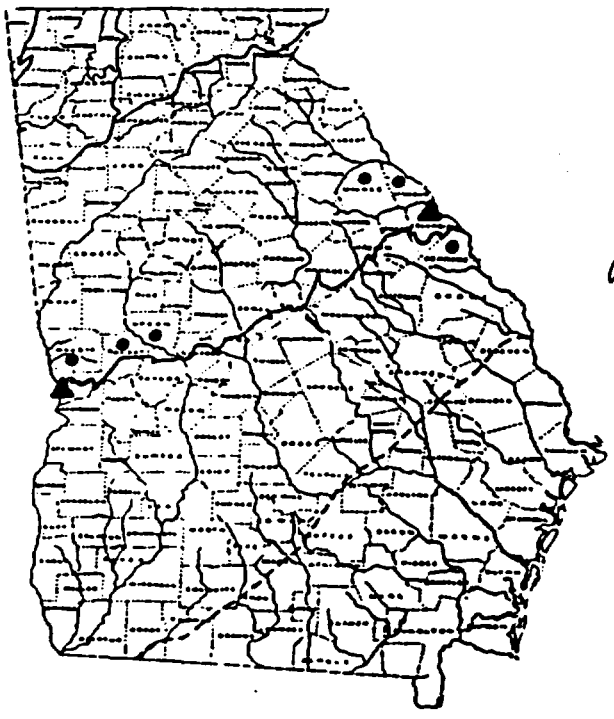
Habitat: Found in rich, moist, deciduous woodlands of spring-fed hollows, ravines and river bluffs; often with ginseng (Panax quinquefolium).

Selected Reference(s):

Harper, R. M. 1942. Croomia a member of the Appalachian flora. Castanea 7:109-113.
Small, J. K. 1972. Manual of the Southeastern Flora. pg. 309. Hafner Publishing Co. New York, New York.
Whetstone, R. D. 1984. Notes on Croomia pauciflora (Stemonaceae). Rhodora 86:131-137.

THREATENED

Hymenocallis coronaria (LeConte) Kunth (LILIACEAE; AMARYLLIDACEAE)
Common Name(s): Shoals Spiderlily, Cahaba Lily
Range: Mostly near fall line, central Ala., Ga., and S.C.
Plant Type: Perennial herb



Hymenocallis coronaria

Description: This conspicuous plant arises to ca. 1 m. tall from a large bulb. The leaves are all basal, strap-shaped, 3-4 cm. wide, and up to 80 cm. long. The 6-9 (rarely fewer) fragrant flowers are borne in a terminal cluster on a long stalk that equals or exceeds the basal leaves. These flowers are quite showy, white with yellowish center, with a narrow perianth tube bearing 6 long petal-like parts and a central cup or crown (corona) to which the staminal filaments are attached. In all, the flowers are about 15 cm. across, and open in late afternoon, withering the next day. The fruit is a fleshy capsule that prematurely splits open exposing the dark green, oblong seeds, each 2-4 cm. long, and resembling green olives. Flowering period: mid-May to late June; fruiting period: July-Aug.

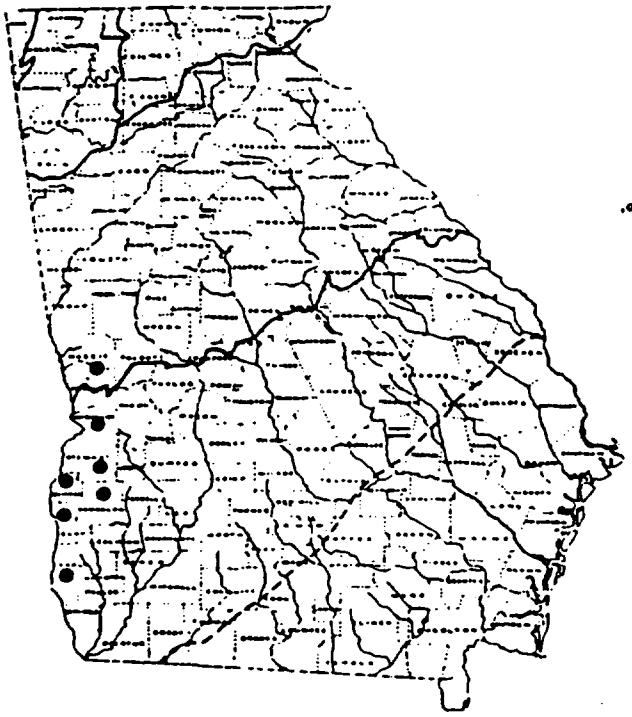
Habitat: Found in major streams and rivers among boulders in rocky shoals, usually with riverweed (Podostemum ceratophyllum) and water-willow (Justicia virginiana).

Selected Reference(s):

Davenport, L.J. 1990. The Cahaba Lily. Alabama Heritage No. 16:24-31, plus full color frontispiece. Published by Univ. of Alabama, Tuscaloosa.

Small, J. K. 1972. Manual of the Southeastern Flora. pg. 323. Hafner Publishing Co., New York, New York.

Rhododendron prunifolium (Small) Millais* (ERICACEAE) THREATENED
Common Name(s): Plumleaf Azalea, Red Honeysuckle
Range: Drainage of Lower Chattahochee River in eastern Ala. and western Ga.
Plant Type: Deciduous shrub



Rhododendron prunifolium

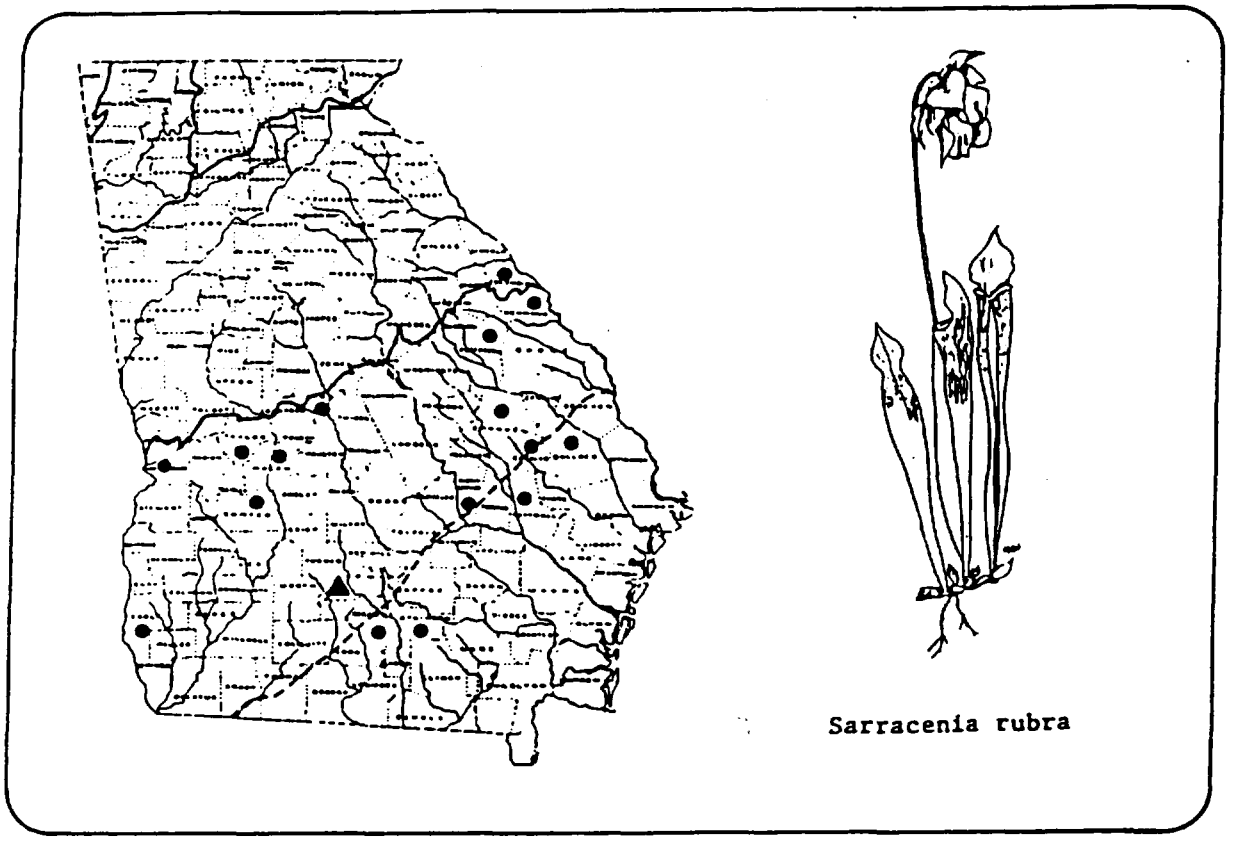
Description: This species is one of the showiest of the native azaleas, and may attain a height of 5 m. The leaves are arranged alternately on the stem in tight clusters, dark green above, light beneath, smooth except for the small hairs on the margins, elliptic to obovate, and 2.5-8.0 cm. long and 1-3 cm. wide. The non-fragrant flowers are borne in terminal clusters with the outer flowers opening first. The five petals are bright orange to crimson colored and are up to 2.5 cm. long. The stamens are very long and project well beyond the petals. The fruit is an ovate-cylindric capsule, 1-2 cm. long, densely covered with both long and short, non-glandular hairs. Flowering period: July-Aug., sporadic from Sept.-Oct.; fruiting period: Aug.-Nov.

Habitat: Found in moist soils of rich hardwood ravines.

Selected Reference(s):
Galle, F. C. 1967. Native and some introduced azaleas of southern gardens-kinds and cultures. American Horticulture Magazine 46(1):13-24.
Galle, F. C. 1985. Azaleas. pg. 69. Timber Press, Portland, Oregon.
Small, J. K. 1972. Manual of the Southeastern Flora. pg. 997. Hafner Publishing Co., New York, New York.

*=Azalea prunifolia Small

Sarracenia rubra Walter (SARRACENIACEAE) **ENDANGERED**
Common Name(s): Sweet Pitcherplant, Red Pitcherplant
Range: Panhandle Fla., Ga., westward to Miss., northward to N.C.
Plant Type: Perennial herb

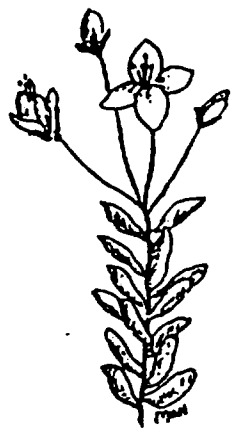


Description: The sweet pitcherplant is 8-68 cm. tall. The hollow leaves are green with some red or purplish veins above, 8-68 cm. tall, and erect; the hoods are sharply pointed with red-netted veins, and arch over the orifice. The single, fragrant, flowers are borne on long stalks that usually exceed the leaves. The petals are maroon above, and sometimes gray or dull purple beneath, and 2.5-4 cm. long. The sepals are purplish above, greenish beneath, and 1.8-2.7 cm. long. The style-disc is 2.8-4 cm. in diameter. The fruit is a capsule, about 1 cm. in diameter. Flowering period: Apr.-May; fruiting period: June-July.

Habitat: Found in acid soils of open bogs, sandhill seeps, wet savannahs, and low areas in pine flatwoods.

Selected Reference(s):
McDaniel, S. 1971. The genus Sarracenia (Sarraceniaceae). Bulletin of the Tall Timbers Research Station 9:22-25.
Radford, A. E., H. E. Ahles, and C. R. Bell. 1964. Manual of the Vascular Flora of the Carolinas. pg. 512. Univ. of N.C. Press, Chapel Hill, N.C.

Sedum pusillum Michx. (CRASSULACEAE) THREATENED
Common Name(s): Granite Stonecrop, Dwarf Stonecrop
Range: Piedmont of Ga., N.C. and S.C.
Plant Type: Annual herb



Sedum pusillum

Description: This is a small, succulent plant up to 12 cm. tall that can be confused easily with "red-moss" or Elf Orpine (Diamorpha cymosa), which is abundant on most granite outcrops. The difference between the two species is only slight; S. pusillum is the larger of the two species and has bluish-green leaves, whereas Diamorpha usually has red leaves. The best distinguishing feature is the fruit: in Diamorpha the fruit opens by a small flap on the underside, whereas in Sedum the fruit opens by a suture on the topside. The succulent leaves of S. pusillum are up to 12 mm. long, cylindric, and overlapping. The small white flowers have 4 petals that are 2-3 mm. long. The fruit is a follicle, 3-5 mm. long, and opens by a longitudinal suture facing upward. Flowering period: Mar.-Apr.; fruiting period: Apr.-May.

Habitat: Found growing among mosses in partial shade under large, open-grown eastern redcedar (Juniperus virginiana) trees on granitic outcrops.

Selected Reference(s):

McVaugh, R. 1943. The vegetation of the granitic flatrocks of the Southeastern States States. Ecological Monographs 13(2):120-166.
Radford, A. E., H. E. Ahles, C. R. Bell. 1964. Manual of the Vascular Flora of the Carolinas. pg. 513. Univ. of N.C. Press, Chapel Hill, N.C.

U.S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary

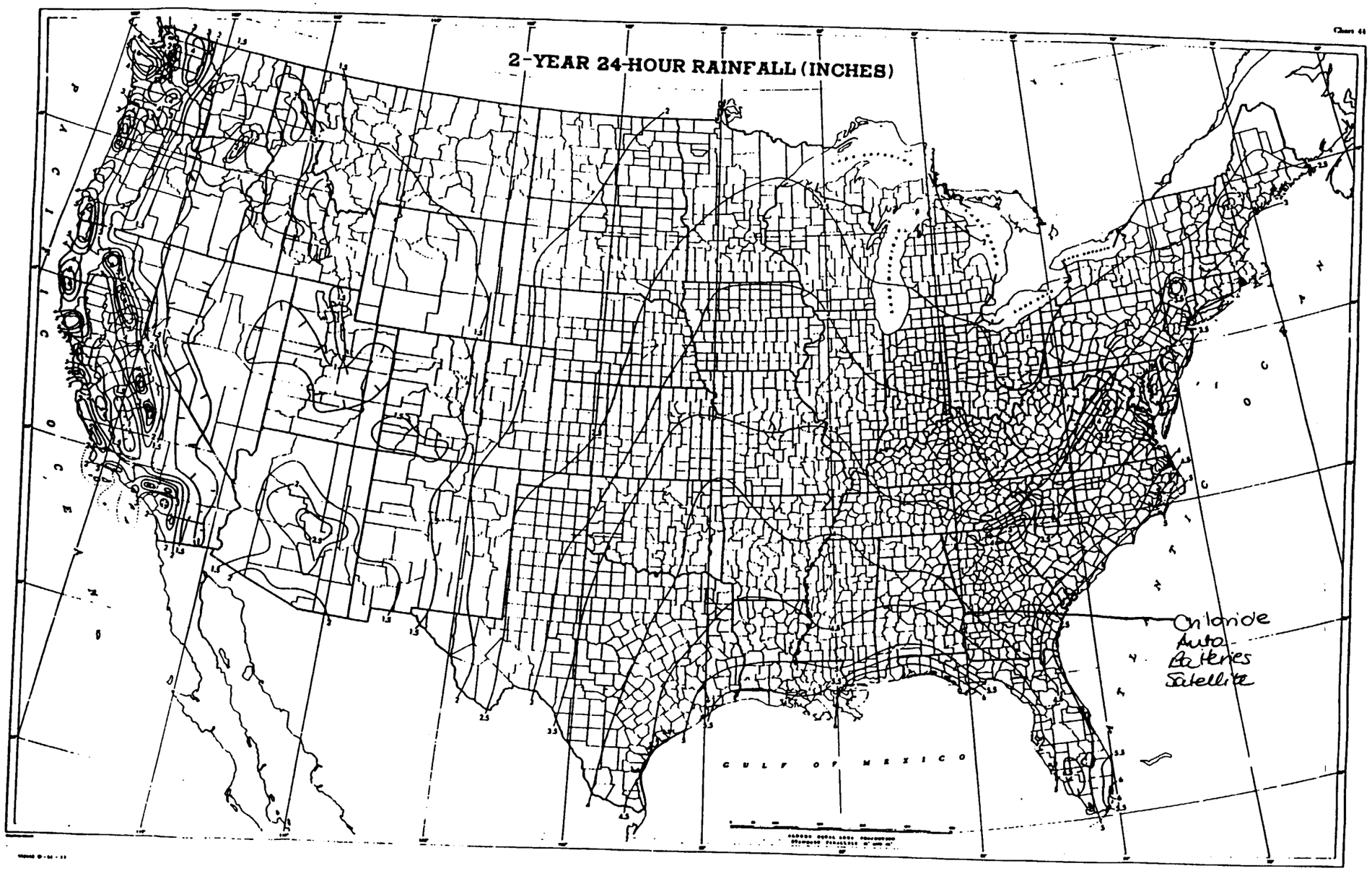
WEATHER BUREAU
F. W. REICHELDERFER, Chief

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture


2-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO
Chloride
Auto-
Batteries
Satellite

Press RETURN key to continue ...

CENSUS DATA

CHLORIDE SATELLITE
LATITUDE 32:26: 9 LONGITUDE 84:55:56 1990 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	0	3191	6962	8390	8110	26653
S 2	0	0	0	5069	6194	0	11263
S 3	0	0	1440	4576	0	0	6016
S 4	0	0	1007	4481	0	0	5488
S 5	0	795	1745	5219	4095	368	12222
S 6	0	0	0	4195	8431	8867	21493
RING TOTALS	0	795	7383	30502	27110	17345	83135

Press RETURN key to continue ...

PROJECT NOTE

DATE: 4 May 1994

TO: Chloride Automotive batteries Satellite
EPA ID No. GAD991275140
WasteLan No. 1847

FROM: Charlotte M. Boulind, Environmental Scientist, Dynamac Corporation 4 May 1994

SUBJECT: Redistribution of the 0.25 - 0.50 mile radius population

Presented in the attachments are calculations which were made to determine the population within 0.00 to 0.25 mile of Chloride Automotive Batteries Satellite (the facility). These calculations were made based on the results of the Graphical Exposure Modelling System (GEMS) printout for the facility which indicated that there was no one residing within a quarter mile of the facility. The topographic map of the area depicts this area as being heavily populated; however, a house count could not be conducted since the area was depicted in pink. Therefore, based on the attached calculations, the population of 795 persons within 0.25 to 0.50 mile of the facility was redistributed to 199 persons within 0.00 to 0.25 mile of the facility and 596 persons within 0.25 to 0.50 mile of the facility.

Attachments

Distribution of 0.25 - 0.50 mile radius Population

▲ Based on the attached calculations:

$$A_{0.25} = \pi (0.25)^2 = 0.19625$$

$$A_{0.50} = \pi (0.50)^2 = 0.785$$

$$\frac{0.19625}{0.785} = 0.25$$

▷ Therefore:

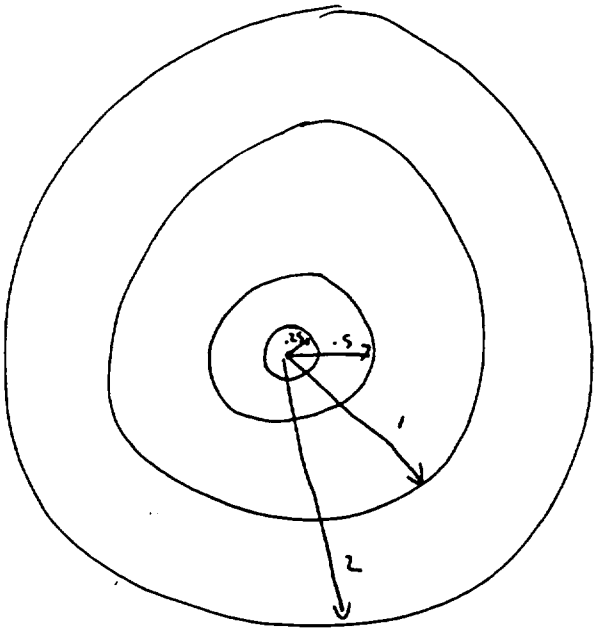
$(0.25)(795) = 198.75$ = ROUNDED = 199 persons w/i 0 - 0.25 mile distance interval

↑ persons from GEMS report residing w/i the 0.25 - 0.50 mile distance interval

795 persons - 199 persons = 596 persons w/i 0.25 - 0.50 mile distance interval

New distribution:

0 - 0.25 mile	199	persons
0.25 - 0.50 mile	596	
0.5 - 1 mile	7,383	
1 - 2 miles	30,502	
2 - 3 miles	27,110	
3 - 4 miles	17,345	
TOTAL	83,135	



$A_{0.25} = \pi(.25)^2 = 0.1963$

$A_{0.5} = \pi(.5)^2 = 0.7850$

$A_1 = \pi(1)^2 = 3.14$

$A_2 = \pi(2)^2 = 12.56$

① P_2 is given for 2 mile ring

② Figure ratio of ring areas to Area of A2

Radial Dist	
0 – .25	$\frac{A_{0.25}}{A_2} = \frac{0.1963}{12.56} = 0.0156$
0.25 – 0.5	$\frac{A_{0.5} - A_{0.25}}{A_2} = \frac{0.7850 - 0.1963}{12.56} = 0.0469$
0.5 – 1.0	$\frac{A_1 - A_{0.5}}{A_2} = \frac{3.14 - 0.7850}{12.56} = 0.1875$
1.0 – 2.0	$\frac{A_2 - A_1}{A_2} = \frac{12.56 - 3.14}{12.56} = 0.75$

Radial Dist	Population
0 – 0.25	(P_2) 0.0156
0.25 – 0.5	(P_2) 0.0469
0.5 – 1.0	(P_2) 0.1875
1.0 – 2.0	(P_2) 0.75

For any distribution:

$$\frac{(\text{Area of ring to be distributed})}{A \text{ of ring with population}}$$

i.e.

(A) P is given for 1 mile, 0 for 0.5 and 0.25

$$\frac{A_{.25}}{A_1} = \frac{0.1963}{3.14} = 0.0625$$

$$\frac{A_{0.5} - A_{0.25}}{A_1} \quad \frac{0.7850 - 0.1963}{3.14} = 0.1875$$

$$\frac{A_1 - A_{0.5}}{A_1} \quad \frac{3.14 - 0.7850}{3.14} = 0.75$$

(B) P is given for 0.5 mile, 0 for 0.25

$$\frac{A_{.25}}{A_{.5}} = \frac{0.1963}{0.7850} = 0.25$$

BLACK & VEATCH Waste Science, Inc.

400 Northridge Road, Suite 350, Atlanta, Georgia 30350, (404) 594-2500, Fax: (404) 587-2930

US EPA -- Region IV
Site Inspections
Work Assignment No. 12

BVWS Project 52012.317
June 28, 1994

Mr. Narindar Kumar
Chief, Site Assessment Section
U.S. Environmental Protection Agency
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: Site Inspection Prioritization
Chloride Automotive Batteries
Satellite
Columbus, Muscogee County, GA
EPA ID No. GAD991275140

Dear Mr. Kumar:

Enclosed please find one copy of the Draft Site Inspection Prioritization for the Chloride Automotive Batteries Satellite in Columbus, Muscogee County, Georgia. If you have any questions, please contact me at 404/643-2320.

Very truly yours,

BLACK & VEATCH Waste Science, Inc.

By J. Wilson for

Victor Blix
Project Manager

sf
Enclosure

cc: Doug Thompson, EPA PO, w/o enclosures
Deborah Davidson, EPA CO, w/o enclosures
Earl Bozeman, EPA WAM, w/o enclosures

REC'D
JUN 29 1994

DYNAMAC
CORPORATION
Environmental Services

Peachtree Center Tower
230 Peachtree Street, N.W.
Suite 500
Atlanta, GA 30303

Telephone: 404-681-0933
Fax: 404-681-0894

June 10, 1994

Mr. Narindar Kumar, Chief
Site Assessment Section
EPA Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Subject: Site Inspection Prioritization
Chloride Automotive Batteries Satellite
Columbus, Muscogee County, Georgia
EPA ID No. GAD991275140

7/11/1994

Re: BVWS Contract No. 68-W9-0055 - Task Order No. 6, Amendment No. 2
BVWS Project No. 52012.317
Document Control No. BVWS-SIP-RD-017

Dear Mr. Kumar:

Dynamac Corporation has been tasked by BLACK & VEATCH Waste Science, Inc., under EPA Contract No. 68-W9-0055 to conduct a Site Inspection Prioritization for Chloride Automotive Batteries Satellite (the facility) in Columbus, Muscogee County, Georgia. According to the scope of work, a preliminary Hazard Ranking System (HRS) score was prepared to determine the need for future activities at the site.

The facility, a former battery manufacturer, is located on Joy Road in southern Columbus (Refs. 1; 2, Appendix A, p. A1; 3). The acreage of the facility was not documented. In 1962, Southeast Lead Company began operations at the facility which was owned by S.E. Graves. From 1973 to 1976, Conerex owned and operated the facility. Since Chloride, Inc., purchased the facility in 1976, the facility has operated in conjunction with two other facilities, Chloride Metals (GAD070330576) and Chloride Automotive Batteries (GAD991274929), which are located adjacent to the facility. It was not documented whether the facility operated in conjunction with the two other facilities prior to 1976 (Refs. 2, p. 3; 4; 5). From 1962 to 1984, the facility manufactured batteries (Ref. 2, pp. 3 - 4). The facility discharged cooling water into a pH neutralization pit east of the facility which discharged into a sewer (Refs. 6, p. 2; 7, p. 1). Chloride Metals recycled the lead battery scrap from the facility (Ref. 8, p. 1). In 1984, the facility was used to charge, store and distribute batteries for customer delivery (Ref. 3, p. 2). The current status of the facility is not known.

According to the available file material, no soil sampling has been conducted at the facility. On May 13, 1982, the Georgia Environmental Protection Division (GEPD) collected two sediment samples from a drainage ditch at the facility as part of an inspection of the adjacent Chloride Automotive Batteries facility and the Chloride Metal facility. Analytical results of the sediment samples indicated the presence of lead; however, the sediment samples were not analyzed for any other hazardous constituents (Refs. 2, App. B, pp. B1, B2; 6, pp. 9, 10).

A preliminary HRS score for the facility was calculated using the Site Inspection worksheets. Pathways evaluated include groundwater migration, surface water migration, soil exposure and air migration. The score reflects a Hazardous Waste Quantity (HWQ) value of 100 for all pathways in order to illustrate a "worst-case" scenario. Maximum contaminant characteristic values were assumed for all pathways.

The majority of residents within 4 miles of the facility obtain potable water from Columbus Water Works, Fort Benning and Phenix City Utilities (Refs. 1; 9; 10; 11; 12; 13). Columbus Water Works and Phenix City Utilities each maintain a surface water intake upstream of the facility on the Chattahoochee River near Oliver Dam (Refs. 9; 13). Fort Benning maintains a surface water intake on Upatoi Creek and four wells, three of which are not located within 4 miles of the facility (Ref. 12). The location of one of the four wells is not known; therefore, in order to present a "worst-case" scenario, it was assumed that the well is located within the Fort Benning boundaries within the closest distance interval from the facility (2- to 3-mile distance interval). Based on the extent of these water districts' service areas and the presence of the Fort Benning well, it was estimated that approximately 195 persons within 4 miles of the facility obtain drinking water from private wells (Refs. 1; 12; 14). No groundwater samples have been collected; therefore, the groundwater migration pathway was evaluated on potential to release and was limited by low target values.

According to available file material, surface water runoff from the facility, which is assumed to be located within the 500-year floodplain, flows either east into the sewer system via the pH neutralization basin or west into a drainage ditch (Refs. 1; 2; 6). Available file material did not indicate whether the drainage ditch eventually flows into the nearest perennial surface water body, an unnamed perennial tributary of Bull Creek, or into the sewer system (Refs. 2; 6). In order to present a "worst-case" scenario, it was assumed that the drainage ditch flows into the unnamed perennial tributary of Bull Creek which is located approximately 0.4 mile northwest of the facility. Based on its appearance on topographic maps of the area, it was assumed that the unnamed perennial tributary of Bull Creek is a fishery with an estimated flow of less than 10 cubic feet per second (cfs) (Ref. 1). This tributary flows west into Bull Creek, the flow of which is estimated to be between 10 to 100 cfs (Ref. 1). Bull Creek flows into the Chattahoochee River which has a recorded average flow of 6,748 cfs (Refs. 1; 16). The 15-mile surface water migration pathway terminates in

the Chattahoochee River (Ref. 1). There are no surface water intakes along the 15-mile surface water migration pathway (Ref. 17). No sensitive environments have been sighted along the 15-mile surface water migration pathway (Refs. 1; 18; 19).

No surface water or sediment samples were collected from a documented perennial surface water body; therefore, the surface water migration pathway was evaluated based on potential to release (Refs. 1; 2; 6, pp. 9, 10; 20). The overall surface water migration pathway score was limited by the lack of an observed release to a fishery and by the distance from the facility to the nearest perennial surface water body.

Land use within 4 miles of the facility is a mixture of urban, commercial and industrial (Refs. 1; 2, App. A, p. A1). The soil exposure pathway score, which was limited by the lack of an onsite residential population, was evaluated based on the assumption of surficial contamination; no onsite soil sampling was presented in the available file material. The air migration pathway was evaluated based on a potential to release; air samples have not been collected. According to topographic maps of the area, there are approximately 130 acres of wetland areas within 4 miles of the facility (Ref. 1). A total of 83,135 persons reside within 4 miles of the facility. As of 1984, the facility was not in operation but was used for distribution purposes; the current status of the facility is unknown (Refs. 3, p. 2; 21; 22).

HRS SCORING SUMMARY

S_{gw}	=	1.45
S_{sw}	=	13.52
S_{soil}	=	1.08
S_{air}	=	13.19
OVERALL SCORE	=	9.49

Due to the overall site score, the presence of minimal target populations and the lack of an observed release to any of the pathways, Dynamac Corporation recommends no further action for Chloride Automotive Batteries Satellite at the Federal level.

Please find attached all references used during this evaluation. If you have any questions or comments, please contact Victor Blix at (404) 594-2500.

Sincerely,

DYNAMAC CORPORATION

Charlotte M. Boulind
Site Manager

David L. Rusher
Vice President
Southern Division

Enclosures

cc: Lori C. Conway, Dynamac Site Assessment Project Manager
Victor Blix, BVWS SI/SIP Project Manager
File

REFERENCES

1. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Maps: Columbus, Georgia - Alabama 1955 (Photorevised [PR] 1985), Ochillee, Georgia 1955 (PR 1985), Phenix City, Alabama 1955 (PR 1984), scale 1:24,000.

2. Charles Stephen Walker, Environmental Specialist, Georgia Environmental Protection Division, Site Investigation Report, Chloride Automotive Batteries Satellite, Columbus, Georgia, GAD991275140, August 1985.

3. Trip Report for Chloride, Inc., Columbus Operations - Chloride Metals, Chloride Automotive Batteries Main and Satellite Plants, Columbus, Muscogee County, Georgia. Filed by Tom Westbrook, Environmental Specialist, Remedial Action Unit, Environmental Protection Division (GEPD), Georgia Department of Natural Resources, July 30, 1984.

4. Kenneth Strunk, Plant Manager, Chloride Metals, telephone conversation with Steve Walker, Remedial Action Unit, GEPD, July 30, 1985. Subject: The Chloride Automotive Batteries facilities.

5. Camilla Warren, Site Screening Unit, GEPD, telephone conversation with Tom Westbrook, Remedial Actin Unit, GEPD, September 12, 1984. Subject: Chloride Metals site and two Chloride Batteries sites in Columbus, Georgia.

6. Jack C. Dozier, P.E., Chief, Water Quality Control Section, GEPD, letter with attachments to Lawrence W. Hahn, Manager, Manufacturing Engineering, Chloride, Inc., June 18, 1982. Subject: Chloride, Inc., Columbus, Georgia.

7. Jack C. Dozier, P.E., Chief, Water Quality Control Section, GEPD, letter to Lawrence W. Hahn, Manager, Manufacturing Engineering, Chloride, Inc., November 18, 1982. Subject: Chloride, Inc., Columbus, Georgia.

8. Potential Hazardous Waste Site Preliminary Assessment (EPA Form 2070-12), Chloride Automotive Batteries - Satellite, Columbus, Muscogee County, Georgia. Filed by Thomas M. Westbrook, GEPD, March 6, 1984.

9. Vic Burchfield, Manager of Water Quality Management, City of Columbus Water Works, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, October 29, 1992. Subject: Source of drinking water for Columbus, Georgia.

10. Steve R. Davis, Manager, Engineering Services, Columbus Water Works, letter with attachment to Rachael Takei, Environmental Specialist, Dynamac Corporation, December 14, 1992. Subject: Water main information.

11. Pat Cosby, Engineer, Columbus Water Works, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, December 21, 1992. Subject: Water lines in Columbus.

12. Jack Hodges, Manager, Fort Benning Water Works Plant, telephone conversation with Rachael Takei, Environmental Specialist, and follow-up with Charlotte Hudson, Environmental Specialist, Dynamac Corporation, November 3, 1992. Subject: Source of drinking water for Fort Benning.

13. Roger Green, Chief Operator, Phoenix City Utilities, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, October 29, 1992. Subject: Drinking water sources for Phoenix City.

14. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing: Summary Population and Housing Characteristics - Tennessee, 1990 CPH-1-35 (Washington, D.C.: GPO, 1991), excerpt, 2 pages.

15. Deleted.

16. W. R. Stokes, III, et al., Water Resources Data Georgia Water Year 1991, Water-Data Report GA-91-1 (Atlanta, Georgia: U.S. Geological Survey, 1992), excerpt, 3 pages.

17. David Vaughn, Principal Engineer, Water Resources Management Program, Water Resources Management Branch, Georgia Department of Natural Resources, Environmental Protection Division, telephone conversation with Rachael Takei, Environmental Specialist, Dynamac Corporation, November 2, 1992. Subject: Surface water intakes off the Chattahoochee below Columbus.

18. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States (The Red Book), Vol. 1 (Washington, D.C.: GPO, 1992), excerpt, 5 pages.

19. Jerry L. McCollum and David R. Ettman, Georgia's Protected Plants, (Social Circle, Georgia: Georgia Department of Natural Resources, updated June 5, 1991), excerpt, 12 pages.

20. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper Number 40 (Washington, D.C.: GPO, 1961), excerpt, 3 pages.

21. U.S. Environmental Protection Agency, Graphical Exposure Modeling System (GEMS) Data Base, compiled from U.S. Bureau of the Census data (1990).

22. Charlotte M. Boulind, Environmental Scientist, Dynamac Corporation, project note to Chloride Automotive Batteries Satellite file, May 4, 1994. Subject: Redistribution of the 0.25 - 0.50 mile radius population.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release to an Aquifer	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Containment	10	10	
	2b. Net Precipitation	10	6	
	2c. Depth to Aquifer	5	3	
	2d. Travel Time	35	25	
	2e. Potential to Release (lines 2a x [2b + 2c + 2d])	500	340	
3.	Likelihood of Release (higher of lines 1 and 2e)	550		340
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Well	50	3	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	3	
	8d. Population (lines 8a + 8b + 8c)	[b]	3	
9.	Resources	5	5	
10.	Wellhead Protection Area	20	0	
11.	Targets (lines 7 + 8d + 9 + 10)	[b]		11
	Groundwater Migration Score for an Aquifer			
12.	Aquifer Score ([lines 3 x 6 x 11]/82,500)[c]	100		1.45
	Groundwater Migration Pathway Score			
13.	Groundwater Migration Pathway Score (S_{gw})[c] (highest value from line 12 for all aquifers evaluated)	100		1.45

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors	Maximum Value	Value Assigned	
DRINKING WATER THREAT			
Likelihood of Release			
1. Observed Release	550	0	
2. Potential to Release by Overland Flow			
2a. Containment	10	10	
2b. Runoff	25	1	
2c. Distance to Surface Water	25	9	
2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	100	
3. Potential to Release by Flood			
3a. Containment (Flood)	10	10	
3b. Flood Frequency	50	7	
3c. Potential to Release by Flood (lines 3a x 3b)	500	70	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	170	
5. Likelihood of Release (higher of lines 1 and 4)	550		170
Waste Characteristics			
6. Toxicity/Persistence	[a]	10,000	
7. Hazardous Waste Quantity	[a]	100	
8. Waste Characteristics	100		32
Targets			
9. Nearest Intake	50	0	
10. Population			
10a. Level I Concentrations	[b]	0	
10b. Level II Concentrations	[b]	0	
10c. Potential Contamination	[b]	0	
10d. Population (lines 10a + 10b + 10c)	[b]	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	[b]		5
Drinking Water Threat Score			
13. Drinking Water Threat Score ([lines 5 x 8 x 12]/82,500, subject to a maximum of 100)	100		0.33

Site Name: Chloride Automotive Batteries Satellite
Location: Columbus, Muscogee County, Georgia

DRAFT

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

Factor Categories and Factors		Maximum Value	Value Assigned	
HUMAN FOOD CHAIN THREAT				
	Likelihood of Release			
14.	Likelihood of Release (value from line 5)	550		170
	Waste Characteristics			
15.	Toxicity/Persistence/Bioaccumulation	[a]	$5x10^8$	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	1,000		320
	Targets			
18.	Food Chain Individual	50	20	
19.	Population			
	19a. Level I Concentrations	[b]	0	
	19b. Level II Concentrations	[b]	0	
	19c. Potential Human Food Chain Contamination	[b]	-	
	19d. Population (lines 19a + 19b + 19c)	[b]	20	
20.	Targets (lines 18 + 19d)	[b]		20
	Human Food Chain Threat Score			
21.	Human Food Chain Threat Score ([lines 14 x 17 x 20]/82,500, subject to a maximum of 100)	100		13.19
ENVIRONMENTAL THREAT				
	Likelihood of Release			
22.	Likelihood of Release (value from line 5)	550		170
	Waste Characteristics			
23.	Ecosystem Toxicity/Persistence/ Bioaccumulation	[a]	$5x10^8$	
24.	Hazardous Waste Quantity	[a]	100	
25.	Waste Characteristics	1,000		320

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
ENVIRONMENTAL THREAT (concluded)			
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	[b]	0	
26b. Level II Concentrations	[b]	0	
26c. Potential Contamination	[b]	0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	[b]	0	
27. Targets (value from line 26d)	[b]		0
Environmental Threat Score			
28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60		0.00
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29. Watershed Score[c] (lines 13 + 21 + 28, subject to a maximum of 100)	100		13.52
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30. Component Score (S_{of})[c] (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100		13.52

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
- Not evaluated.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SOIL EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors		Maximum Value	Value Assigned	
RESIDENT POPULATION THREAT				
	Likelihood of Exposure			
1.	Likelihood of Exposure	550		550
	Waste Characteristics			
2.	Toxicity	[a]	10,000	
3.	Hazardous Waste Quantity	[a]	100	
4.	Waste Characteristics	100		32
	Targets			
5.	Resident Individual	50	0	
6.	Resident Population			
	6a. Level I Concentrations	[b]	0	
	6b. Level II Concentrations	[b]	0	
	6c. Resident Population (lines 6a + 6b)	[b]	0	
7.	Workers	15	5	
8.	Resources	5	0	
9.	Terrestrial Sensitive Environments	[d]	0	
10.	Targets (lines 5 + 6c + 7 + 8 + 9)	[b]		5
	Resident Population Threat Score			
11.	Resident Population Threat ([lines 1 x 4 x 10]/82,500)	[b]		1.07
NEARBY POPULATION THREAT				
	Likelihood of Exposure			
12.	Attractiveness/Accessibility	100	10	
13.	Area of Contamination	100	5	
14.	Likelihood of Exposure	500		5
	Waste Characteristics			
15.	Toxicity	[a]	10,000	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	100		32

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

SOIL EXPOSURE PATHWAY SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
NEARBY POPULATION THREAT (Concluded)			
Targets			
18. Nearby Individual	1	1	
19. Population Within 1 Mile	[b]	4	
20. Targets (lines 18 + 19)	[b]		5
Nearby Population Threat Score			
21. Nearby Population Threat ([lines 14 x 17 x 20]/82,500)	[b]		0.01
SOIL EXPOSURE PATHWAY SCORE			
22. Soil Exposure Pathway Score (S_{soil})[d] (lines 11 + 21, subject to a maximum of 100)	100		1.08

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.

Site Name: Chloride Automotive Batteries Satellite **DRAFT**
Location: Columbus, Muscogee County, Georgia

AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors

	Likelihood of Release	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Gas Potential to Release	500	-	
	2b. Particulate Potential to Release	500	-	
	2c. Potential to release (higher of lines 2a and 2b)	500	500*	
3.	Likelihood of Release (higher of lines 1 and 2c)	550		500*
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Individual	50	20	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	48	
	8d. Population (lines 8a + 8b + 8c)	[b]	48	
9.	Resources	5	0	
10.	Sensitive Environments			
	10a. Actual Contamination	[d]	0	
	10b. Potential Contamination	[d]	0.02	
	10c. Sensitive Environments (lines 10a + 10b)	[d]	0.02	
11.	Targets (lines 7 + 8d + 9 + 10c)	[b]		68
	Air Migration Pathway Score			
12.	Air Migration Pathway Score (S_{air})[c] ([lines 3 x 6 x 11]/82,500)	100		13.19

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Do not round to nearest integer.
[d] No specific maximum value applies to factor. However, a pathway score based solely on sensitive environments is limited to a maximum value of 60.
* Default value.
\- Not evaluated.

EPA

POTENTIAL HAZARDOUS WASTE SITE
TENTATIVE DISPOSITION

REGION: 04 | SITE NUMBER: FLD991275442

File this form in the National Uncontrolled Waste Site Log File and submit a copy to U.S. Environmental Protection Agency, Site Tracking System, Hazardous Enforcement Task Force (EN-335), 401 M St., SW, Washington, D.C. 20460.

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET	
Old Chloride Batt Sat.		
C. CITY: Colquitt	D. STATE: Ga.	E. ZIP CODE:

II. TENTATIVE DISPOSITION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED -- NO HAZARD					
B. INVESTIGATIVE ACTION'S NEEDED (If yes, complete Section III.)					
C. REMEDIAL ACTION NEEDED (If yes, complete Section IV.)					
D. ENFORCEMENT ACTION NEEDED (If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)					

E. RATIONALE FOR DISPOSITION

Combine with other Chloride sites

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION (mo., day, & yr.)

G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED (mo., day, & yr.)

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Roy Weltmer		9-13-85

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

rank ?

B. PROPOSED INVESTIGATIVE ACTIVITY (Detailed Information)

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION (mo, day, & yr.)	3. TO BE PERFORMED BY (EPA, Contractor, State, etc.)	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION (1)				
(2)				
(3)				
b. TYPE OF MONITORING (1)				
(2)				
c. TYPE OF SAMPLING (1)				
(2)				

EPA Form T2070-4 (10-79)

Continue On Reverse

SITE INVESTIGATION REPORT

CHLORIDE AUTOMOTIVE BATTERIES SATELLITE

COLUMBUS, GEORGIA

GAD991275140

P.W. Allred Ph.D.
for Steve Walker

Charles Stephen Walker
Environmental Specialist
Environmental Protection Division
August 1985

CHLORIDE AUTOMOTIVE BATTERIES SATELLITE

SITE INVESTIGATION REPORT

TABLE OF CONTENTS

CHLORIDE AUTOMOTIVE BATTERIES SATELLITE

SITE INVESTIGATION REPORT

LIST OF FIGURES AND APPENDICES

1.0 EXECUTIVE SUMMARY

The Chloride Automotive Batteries Satellite site is located in the City of Columbus, Georgia. The site has been owned by S. E. Graves, Conerex, and by the present owners, Chloride, Inc. Site use prior to 1976 is unknown. During 1976, Chloride, Inc. purchased the facility and began manufacturing batteries on site.

A small amount of lead oxide and scrap lead waste was generated at this facility during manufacturing activities. This waste was transported to the adjacent Chloride Metals site (GAD070330576) for smelting. The facility is currently used for storage and is no longer manufacturing batteries. In 1982, plant runoff was identified by the Water Branch of the EPD as a major cause of lead contamination in an intermittent stream adjacent to the site. The yard area around the site has been paved by the facility in an attempt to eliminate lead-contaminated soil from entering the adjacent stream via surface runoff. The Chloride Automotive Batteries Satellite site is adjacent to two other hazardous waste sites owned by Chloride, Inc.; Chloride Metals (GAD070330576) and Chloride Automotive Batteries (GAD991274929).

The geology of the site area is composed of alternating sands and clays of Upper Cretaceous age. These unconsolidated sediments are underlain by crystalline rocks (granites, gneisses and schists) of Precambrian and Paleozoic age. The sedimentary rocks, which underlie the site are part of the Cretaceous Aquifer system. This aquifer is not known to be used in the vicinity of the site. Surface runoff from the site enters the Chattahoochee about 2

miles west of the site. The area around the site consists of heavily populated residential neighborhoods.

On July 24, 1984 Tom Westbrook of the EPD conducted a site inspection of the facility. Mr. Westbrook interviewed the Plant Manager of the site, Mr. Richard Smith. No samples were collected on the Chloride Automotive Batteries Satellite site; however, Mr. Westbrook collected a composite soil sample from a former slag waste pile at the adjacent Chloride Metals site. This sample contained lead at a concentration of 2,260 µg/kg (EP toxicity method). Samples were collected around the site by the Water Branch of the EPD in 1982, 1983, and 1984. Laboratory analysis of these samples indicated that lead was present in both water and sediment in an intermittent stream adjacent to the site.

The Chloride Automotive Batteries site is currently engaged in corrective actions (along with the 2 other adjacent Chloride sites) negotiated by the Water Branch of the EPD, which will reduce or eliminate lead contamination in stream sediments, storm water (surface water) runoff, and discharges from the site. The three contiguous Chloride sites are scheduled to have an NPDES storm water discharge permit sometime during late 1986 according to Larry Hedges of EPD (Industrial Waste Water Program).

Lead contamination of the stream water and sediments will be dealt with by the Industrial Water Quality Section of the Georgia EPD. For this reason, no further actions are planned for the site with respect to CERCLA.

2.0 BACKGROUND

2.1 Location

The Chloride Automotive Batteries site is located in the City of Columbus, in western Georgia (Appendix A, Figure 1).

2.2 Site Layout

The Chloride Automotive Batteries Site is adjacent to two other hazardous waste sites, the Chloride Metals site (GAD070330576) and the Chloride Automotive Batteries Satellite site (GAD991275140). The Chloride sites are bounded on the north by Joy Road and on the west and south by the Central of Georgia Railroad. A light industrial area lies to the east.

2.3 Ownership History

In a phone conversation on 7/30/85 (See Memo in Appendix C), Mr. Kenneth Strunk who has worked at the Chloride Metals site for approximately 15 years, stated that the Chloride Automotive Batteries Satellite site was originally owned by S. E. Graves (1962-1973) and Conerex (1973-1976). The facility was operated as the South East Lead Company (SELCO) while under the ownership of S. E. Graves, Inc. The present owners, Chloride, Inc. of Tampa, Florida, purchased the facility in 1976.

2.4 Site Use History

Site use prior to ownership by Chloride, Inc. is unknown. Presumably, S. E. Graves and Conerex both engaged in battery manufacture or related activities. Since 1976, the facility has manufactured batteries (exact type

of battery unspecified) on site.

2.5 Permit and Regulatory History

The Chloride Automotive Batteries Satellite facility has had a history of involvement with the EPD. The facility currently discharges neutralized acid waste to the local POTW under City of Columbus permit (personal conversation with Dave Bullard of EPD). According to Larry Hedges of EPD's Industrial Waste Water Program, the facility is in the process of obtaining an NPDS permit for surface runoff/storm water runoff from the facility. This process should be completed within one year.

2.6 Remedial Actions to Date

In an effort to reduce the lead content of surface runoff from the site area, Chloride, Inc., has voluntarily paved over sections of exposed yard area around the facility.

2.7 Summary Trip Report

Mr. Tom Westbrook of EPD arrived on site on the morning of 8/24/84. Mr. Westbrook spoke briefly with the Plant Manager, Mr. Richard Smith, who escorted Mr. Westbrook on a tour of the facility. No samples were collected at the Chloride Automotive Batteries Satellite site during this visit but a sample was collected from the adjacent Chloride Metals site from a former slag waste pile. Samples collected from around all three of the Chloride sites during 1982, 1983 and 1984 by the Industrial Water Quality Branch of the Georgia EPD revealed that lead contamination was present in stream water and sediments.

3.0 ENVIRONMENTAL SETTING

3.1 Topography

The topography of the site area is relatively flat with a slope of from 2% to about 5% toward the west. Because the site is located in an urban setting, much of the slope in the area has been flattened in the construction of roads, homes and businesses.

3.2 Surface Waters

Surface runoff from the site enters an unnamed stream about 100 feet southwest of the site. This stream enters Bull Creek about 1.5 miles southwest of the site. Bull Creek enters the Chattahoochee River about 2 miles west of the site.

The Chattahoochee River has had an average discharge of 6,773 ft^3/s during the 1920-1982 period as measured approximately 4 miles northwest of the site (Stokes et al., 1983).

3.3 Geology and Soils

Soils at the site have been mapped as the Eunola Complex. Data relating to the physical characteristics of these soils is included in Figure 3 of Appendix A (Johnson, 1983).

The site is underlain by unconsolidated and semiconsolidated sediments of Louvale Group (Eutaw and Tuscaloosa Formations) of Upper Cretaceous age (Arora, 1984). These alternating sands and clays are less than 500 feet thick in

the site area and are underlain by gneisses, granites and schists of Paleozoic and Precambrian age.

3.4 Ground Water

Sands and clays of the (Upper) Cretaceous Aquifer System underlie the site area. Adequate quantities of potable ground water exist in the more permeable, sandy zones of this aquifer (known elsewhere in the south as the Tuscaloosa Aquifer). The Columbus Municipal Water System does not utilize ground water in the site area (personal conversation between Steve Walker of the Georgia EPD and Mr. Bradley Culverson of the City of Columbus Municipal Water Services - see telephone memo in Appendix C).

3.5 Climate and Meteorology

The climate of the Columbus area is influenced by moist weather systems moving north from the Gulf of Mexico and by continental weather systems moving from the northwest. The Muscogee County area typically has cool winters and hot, humid summers (Johnson, 1983).

3.6 Land Use

The site is surrounded by heavily populated residential neighborhoods. Land use within Muscogee County is as follows (Pine Mountain Soil and Water Conservation District, 1979):

Land Use	Acres	% of Total (approx.)
Forest	95,500	69.0
Urban	38,621	28.0
Pasture	2,280	1.6
Roads	1,785	1.2
Crops	230	.2
	138,416	100.0

3.7 Population Distribution

Columbus had a population of 169,441 persons in 1984 (Burgess, 1984).

3.8 Water Supply

The Columbus Municipal Water System is supplied with 54 million gallons per day (mgd) of water from Lake Oliver on the Chattahoochee River at a point about 3 or 4 miles above downtown Columbus. The municipal water system does not utilize any ground water wells. Private ground water use in the immediate area of the site is unknown (personal communication between Steve Walker of the Georgia EPD and Mr. Bradley Culverson of the City of Columbus Municipal Water System - see telephone memo in Appendix C).

3.9 Critical Environments

No wetlands greater than 5 acres in size exist within 5 miles of the site; however, both the Red cockaded woodpecker and the American alligator have been observed in Muscogee County. Both of these are on the Federal Endangered Species List (Odom, et al, 1977).

4.0 WASTE TYPES AND QUANITIES

4.1 Waste Quantities

The waste data management sheet for the facility (Appendix C) indicates that 750,000 gallons of sulfuric acid waste were generated each year until 1984. This waste was neutralized on site and then discharged to the local POTW. A small amount of lead oxide waste and scrap lead was apparently generated on site also (Trip Report by Tom Westbrook, Appendix C). The site does not currently generate any hazardous waste.

4.2 Waste Disposal Methods and Locations

Sulfuric acid wastes were neutralized on site and discharged to the local POTW. All lead oxide waste and scrap lead was transported to the adjacent Chloride Metals site (GAD070330576) for smelting. No hazardous wastes are currently generated or disposed of on site.

4.3 Waste Types

Waste at the site consisted of sulfuric acid. Minor amounts of lead oxide and scrap lead were apparently generated on site also.

5.0 LABORATORY DATA

5.1 Summary

One composite soil sample was taken from the adjacent Chloride Metals site old waste pile area on 7/24/84. The sample contained 2,260 µg/kg of lead (EP toxicity method). Various environmental samples have been collected around all 3 contiguous Chloride sites by the water branch of the EPD during 1982, 1983 and 1984. The results (Appendix B) indicate that lead was present in both stream water and stream sediments in and around the Chloride sites.

5.2 Quality Assurance Review

All sampling and subsequent laboratory analysis by the EPD are covered by an approved Quality Assurance document.

6.0 TOXICOLOGICAL/CHEMICAL CHARACTERISTICS

The following substances have been identified at, or are known to occur at the site (Sax, 1984):

lead - OSHA standard in air TWA = 200 $\mu g/m^3$. A suspected carcinogen of the lungs and kidneys in humans. An experimental teratogen. Known to cause central nervous system damage in humans. The lowest lethal dose for a human (female) is 450 mg/kg/for 6 years (oral route).

EPA HRS Waste Characteristic value of:

	Ground Water and Surface Water Pathway Value	Air Pathway Value
lead	18	9

sulfuric acid - OSHA standard in air TWA = 1 mg/m^3. Very corrosive and a strong irritant. May ignite or explode upon contact with a variety of chemicals. The lowest lethal dose for a human (male or female) is 135 mg/kg.

EPA HRS Waste Characteristics Value

	Groundwater and Surface Water Pathway Value	Air Pathway Value
sulfuric acid	9	9

CSW/mcw021

APPENDIX A

Figure 1: Site Location Map - Chloride Automotive Batteries Satellite

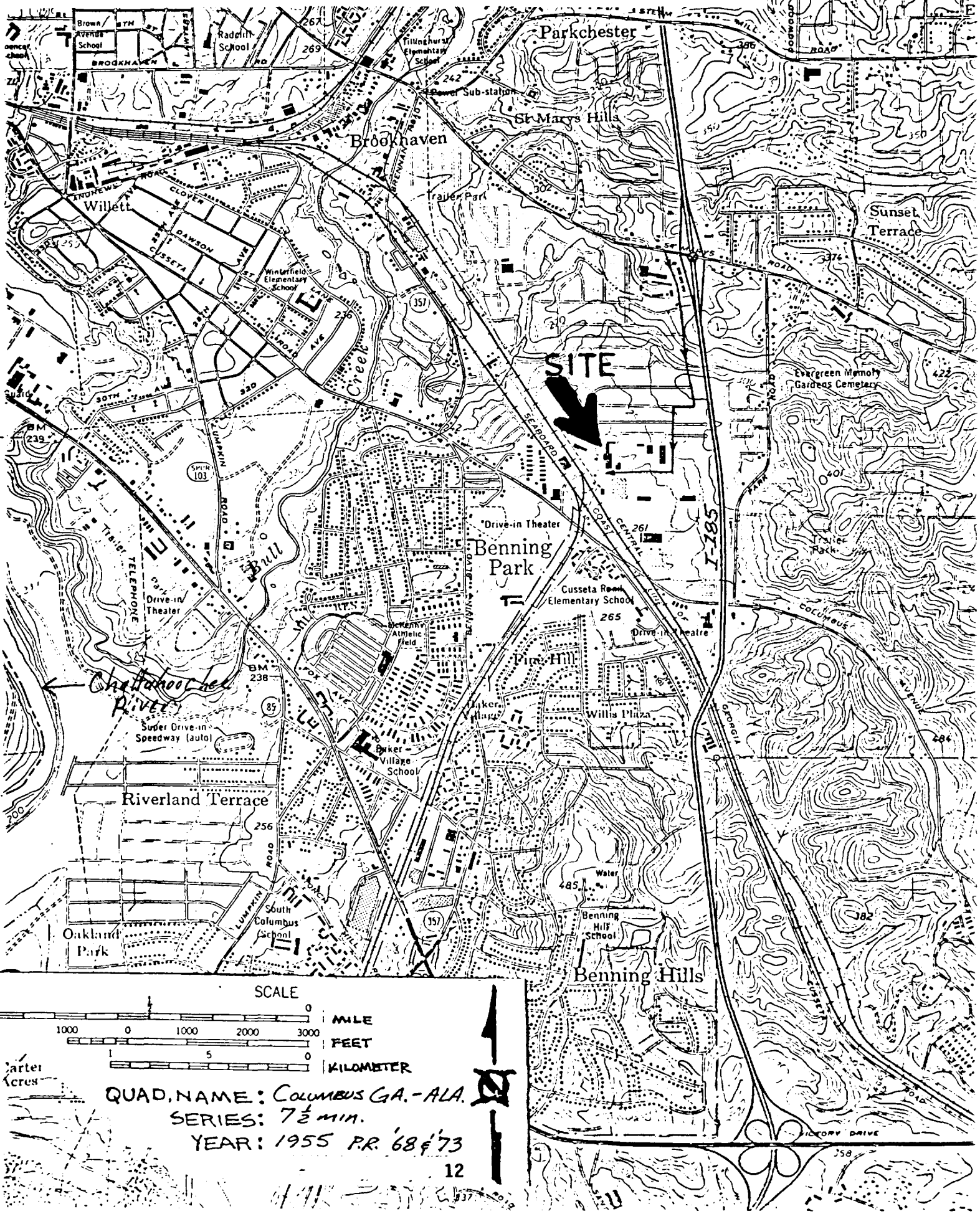


Figure 2: Site Sketch Map

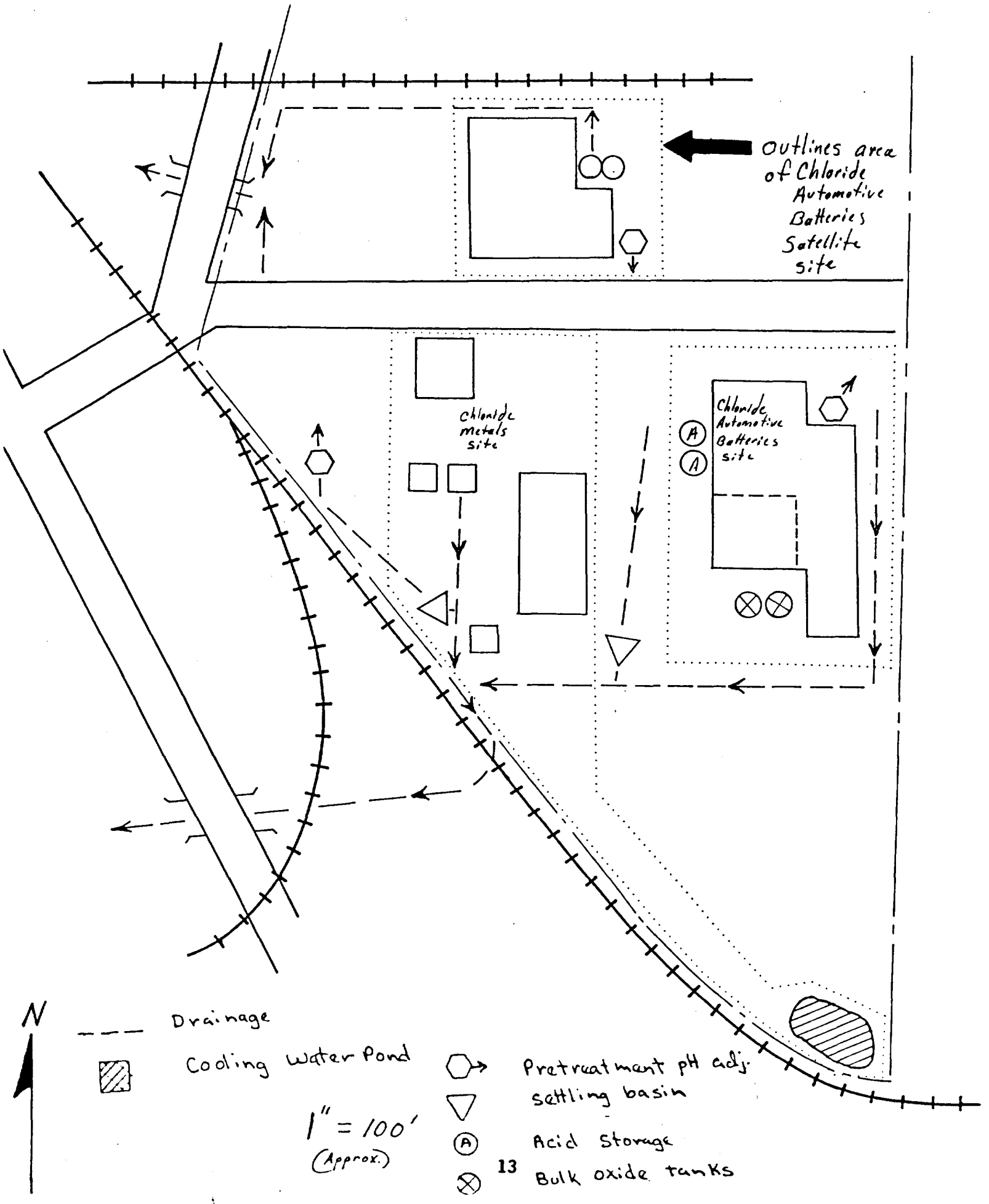
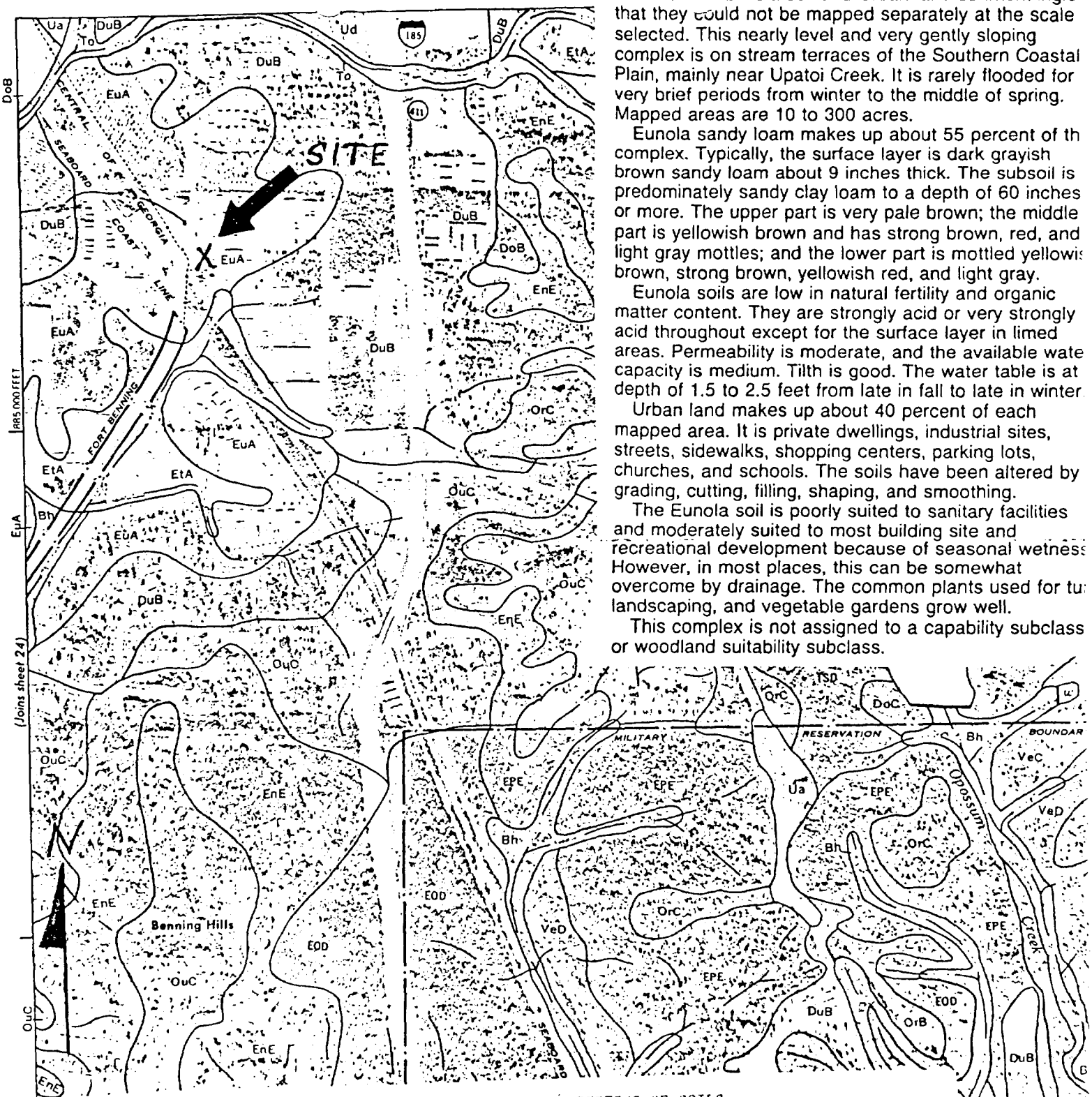


Figure 3: Soil Map of Site Area



EuA—Eunola-Urban land complex, 0 to 3 percent slopes. This complex consists of areas of moderately well drai Eunola soil and Urban land so intermingle that they could not be mapped separately at the scale selected. This nearly level and very gently sloping complex is on stream terraces of the Southern Coastal Plain, mainly near Upatoi Creek. It is rarely flooded for very brief periods from winter to the middle of spring. Mapped areas are 10 to 300 acres.

Eunola sandy loam makes up about 55 percent of th complex. Typically, the surface layer is dark grayish brown sandy loam about 9 inches thick. The subsoil is predominately sandy clay loam to a depth of 60 inches or more. The upper part is very pale brown; the middle part is yellowish brown and has strong brown, red, and light gray mottles; and the lower part is mottled yellowis brown, strong brown, yellowish red, and light gray.

Eunola soils are low in natural fertility and organic matter content. They are strongly acid or very strongly acid throughout except for the surface layer in limed areas. Permeability is moderate, and the available wate capacity is medium. Tilth is good. The water table is at depth of 1.5 to 2.5 feet from late in fall to late in winter.

Urban land makes up about 40 percent of each mapped area. It is private dwellings, industrial sites, streets, sidewalks, shopping centers, parking lots, churches, and schools. The soils have been altered by grading, cutting, filling, shaping, and smoothing.

The Eunola soil is poorly suited to sanitary facilities and moderately suited to most building site and recreational development because of seasonal wetnes However, in most places, this can be somewhat overcome by drainage. The common plants used for tu landscaping, and vegetable gardens grow well.

This complex is not assigned to a capability subclass or woodland suitability subclass.

ticks and land division corners, if shown, are approximately positioned.

--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--

Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	High water table		
						Depth	Kind	Months
	Inches	%				Ft		
EuA*:								
Eunola----------	0-18	10-17	2.0-6.0	0.10-0.14	4.5-5.5			
	18-26	18-35	0.6-2.0	0.12-0.17	4.5-5.5	1.5-2.5	Apparent	Nov-Mar
	26-52	18-45	0.6-2.0	0.12-0.16	4.5-5.5			
	52-60	8-17	2.0-6.0	0.10-0.14	4.5-5.5			

APPENDIX B

Appendix B

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

RECEIVED KW

SUBMITTED BY David Bullard

BY D.H.

DATE 5-14-82

TIME 0900

PROJECT

VIA Bullard

LAB NUMBER	DATE COLL. Yr	Mo	Da	TIME COLL.	STATION NO.	COLL AGENCY
4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
469	82	05	13	1225	912250000	30021

SAMPLE DESCRIPTION: Columbus Water Works Chlorine In-Stream on Hwy Rd #11

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	90029		
Temp. °C	00010		
Temp. °C	00020		
ft	00065		
ft.	90065		
mg/l	00300		
	00400		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	00310		
TOC mg/l	00680		
Color PCU	00080		
pH	00403		
Tot. Alk mg/l $CaCO_3$	00410		
Hdns. mg/l $CaCO_3$	00900		
Spec. Cond. $\frac{\mu mho}{cm}$	00095		
Turbidity JCU	00070		
NH_3 mg/l (N)	00610		
$NO_3 + NO_2$ mg/l (N)	00630		
Phos. mg/l (P)	00665		
F. Coli. $\frac{MPN}{100ml}$	31615		
T. Solids mg/l	00500		
S. Solids mg/l	00530		
Ca mg/l	00916		
Mg mg/l	00927		
Na mg/l	00929		

PARAMETER	STORET CODE	R	VALUE
K mg/l	00937		
Cl mg/l	00940		
SO_4 mg/l	00945		
Fe µg/l	01045		
Mn µg/l	01055		
T. Coli. $\frac{MPN}{100\ ml}$	31505		
P.5	01051		6100

E70-Project K-1

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Appendix E)

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

COLLECTED BY David Bullard

RECEIVED KW
BY D.H.
DATE 5-14-82
TIME 0900
VIA Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr.	Mo	Da	TIME COLL.	STATION NO.	COLL. AGENCY
3 4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
C 1 4 6 7	8 2	0 5	1 3	1 2 2 5	9 1 2 5 0 0 0 0	3 0 0 2 1

SAMPLE DESCRIPTION: Columbus Water Works Chloride Inc Stream on Valley Rd. #2

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
F Loc Code	9 0 0 2 9		
O Temp. °C	0 0 0 1 0		
Temp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. $\frac{\mu mho}{cm}$	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. $\frac{MPN}{100ml}$	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 0		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. $\frac{MPN}{100\ ml}$	3 1 5 0 5		
Pb.	01051		155

COMP. SHEET 5-20-82 KW

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Appendix 7

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

RECEIVED 5/14/82

BY D.H.

DATE 5-14-82

TIME 0900

VIA Bullard

COLLECTED BY David Bullard

LAB NUMBER	DATE COLL. Yr	Mo	Da	TIME COLL.	STATION NO.	COLL. AGENCY
4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
1 4 6 8	8 2	0 5	1 3	1 3 2 0	9 1 2 2 5 0 0 0 0	3 0 0 2 1

PROJECT _____

SAMPLE DESCRIPTION: Columbus Water Works Chlorine Inc. Stream south of plant #4

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	9 0 0 2 9		
Temp. °C	0 0 0 1 0		
Temp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. µmho/cm	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. MPN/100ml	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 8		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. MPN/100 ml	3 1 5 0 5		
D.O.	0 1 0 5 1		3350

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Appendix B

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

RECEIVED BY David Bullard

RECEIVED
BY DH KW
DATE 5-14-82
TIME 0900
VIA Bollard

PROJECT

LAB NUMBER	DATE COLL. Yr.	Mo.	Da.	TIME COLL.	STATION NO.	COLL AGENCY
4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
1 4 2 0	8 2	0 5	1 3	1 3 2 0	9 1 2 2 5 0 0 0 0	3 0 0 2 1

SAMPLE DESCRIPTION: Columbus Water Works Chlorine Inc. Stream South of Plant #4 Sediment

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	9 0 0 2 9		
Temp. °C	0 0 0 1 0		
Temp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. µmho/cm	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 5 5		
F. Coli. MPN/100ml	3 1 6 1 5		
T. Solids % mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 3		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. MPN/100 ml	3 1 5 0 5		
Pb mg/kg Dry	0 1 0 5 2		1 2 4 0 0
% Solids	8 0 5 1 0		7 7 . 3

19

5-20-82 Filed

Appendix E

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

RECEIVED
BY O.H. KW
DATE 5-14-82
TIME 0920
VIA Bullard

COLLECTED BY David Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr	Mo	Da	TIME COLL.	STATION NO.	COLL. AGENCY
4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
1 4 7 2	8 2	0 5	1 3	1 2 5 2	9 1 2 2 5 0 0 0 0	0 3 0 2 1

SAMPLE DESCRIPTION: Columbus Water Works Chloride Inc. Stream at Cussetta Rd Bridge Sediment

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc. Code	9 0 0 2 9		
O Temp. °C	0 0 0 1 0		
Temp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. µmho/cm	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. MPN/100ml	3 1 6 1 5		
T. Solids 9a mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 3		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. MPN/100 ml	3 1 5 0 5		
Pb mg/kg Dry	0 1 0 5 2		102
% Solids	9 0 5 1 0		81.3

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Appendix B

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

COLLECTED BY David Bullard

RECEIVED
BY C.H. KW
DATE 5-14-82
TIME 0900
VIA Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr.	Mo.	Da.	TIME COLL.	STATION NO.	COLL. AGENCY
3 4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
0 1 4 2 1	8 2	0 5	1 3	1 2 5 2	9 1 2 2 5 0 0 0 0	3 0 0 2 1

SAMPLE DESCRIPTION: Columbus Water Works Chloride INC. Stream At Cusseta Rd #3

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
F Loc. Code	9 0 0 2 9		
2O Temp. °C	0 0 0 1 0		
ir Temp. °C	0 0 0 2 0		
H ft.	0 0 0 6 5		
D ft.	9 0 0 6 5		
O mg/l	0 0 3 0 0		
H	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. µmho/cm	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. MPN/100ml	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 3		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. MPN/100 ml	3 1 5 0 5		
Pb mg/L	0 1 0 5 1		3 9 5 0

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5-20-82 KW

Appendix B

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

COLLECTED BY Glen Vaughn (cww)

RECEIVED
BY [illegible]
DATE 5-14-82
TIME 0800
VIA Dave Bullard

PROJECT

LAB NUMBER	DATE COLL. Yr	Mo	Da	TIME COLL	STATION NO.	COLL AGENCY
3 4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
2 1 4 7 3	8 2	0 5	1 3		9 1 2 2 5 0 0 0 0 3	0 2 1

SAMPLE DESCRIPTION: Columbus water works Majak Market @ Joy Rd

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
Loc Code	9 0 0 2 9		
Temp. °C	0 0 0 1 0		
Temp. °C	0 0 0 2 0		
ft.	0 0 0 6 5		
ft.	9 0 0 6 5		
mg/l	0 0 3 0 0		
	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. $\frac{\mu mho}{cm}$	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 5 5		
F. Coli. $\frac{MPN}{100ml}$	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 9		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. $\frac{MPN}{100\ ml}$	3 1 5 0 5		
Pb	0 1 0 5 1	<	1.0

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COMPLETED 6-10-82 CHECKED Kay INIT. _____ VALIDATED _____

Appendix E

WATER QUALITY ANALYSIS

ENVIRONMENTAL PROTECTION DIVISION
DEPARTMENT OF NATURAL RESOURCES
Atlanta, Georgia 30334

ECTED BY Glen Vaughn (CWW)

RECEIVED BY KCW
DATE 5-14-82
TIME 0800
VIA Dana Dillard

PROJECT

LAB NUMBER	DATE COLL. Yr.	Mo.	Da	TIME COLL.	STATION NO.	COLL. AGENCY
3 4 5 6	7 8	9 10	11 12	13 14 15 16	17 18 19 20 21 22 23 24 25	26 27 28 29 30
0 1 4 7 4	8 2	0 5	1 3	1 2 1 0	9 1 2 2 5 0 0 0 0	3 0 0 2 1

SAMPLE DESCRIPTION: Columbus water works Apparel mfg. Co Joy Rd

TYPE 3 DATA – FIELD

PARAMETER	STORET CODE	R	VALUE
TF Loc. Code	9 0 0 2 9		
ZO Temp. °C	0 0 0 1 0		
ir Temp. °C	0 0 0 2 0		
H ft.	0 0 0 6 5		
D ft.	9 0 0 6 5		
O mg/l	0 0 3 0 0		
H	0 0 4 0 0		

TYPE 2 DATA – LAB RESULTS

PARAMETER	STORET CODE	R	VALUE
BOD mg/l	0 0 3 1 0		
TOC mg/l	0 0 6 8 0		
Color PCU	0 0 0 8 0		
pH	0 0 4 0 3		
Tot. Alk mg/l $CaCO_3$	0 0 4 1 0		
Hdns. mg/l $CaCO_3$	0 0 9 0 0		
Spec. Cond. µmho/cm	0 0 0 9 5		
Turbidity JCU	0 0 0 7 0		
NH_3 mg/l (N)	0 0 6 1 0		
$NO_3 + NO_2$ mg/l (N)	0 0 6 3 0		
Phos. mg/l (P)	0 0 6 6 5		
F. Coli. MPN/100ml	3 1 6 1 5		
T. Solids mg/l	0 0 5 0 0		
S. Solids mg/l	0 0 5 3 0		
Ca mg/l	0 0 9 1 6		
Mg mg/l	0 0 9 2 7		
Na mg/l	0 0 9 2 9		

PARAMETER	STORET CODE	R	VALUE
K mg/l	0 0 9 3 7		
Cl mg/l	0 0 9 4 0		
SO_4 mg/l	0 0 9 4 5		
Fe µg/l	0 1 0 4 5		
Mn µg/l	0 1 0 5 5		
T. Coli. MPN/100 ml	3 1 5 0 5		
Pb	0 1 0 5 1	<	1 0

COMPLETED 5-18-82 CHECKED KCW KEYED _____ VALIDATED _____

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APPENDIX C

Appendix C

TELEPHONE MEMORANDUM

FROM: Steve Walker - EPD, RAU (404) 656-7404

TO: Mr. Kenneth Strunk - Plant Manager Chl. Metals (404) 689-1701

SITE: Chloride Automotive Batteries GAD991274929

DATE: 7/30/85 TIME: 10:40 a.m.

COMMENTS: I called to speak with Mr. Richard Smith. Mr. Strunk came on the line and stated that Mr. Smith no longer worked for Chloride at Columbus. Mr. Strunk stated that he has worked at the Chloride Metals site for about 15 yrs. He was able to answer my questions about the adjacent Chloride Automotive Batteries site. He indicated that the oxide storage tanks (Appendix A, Fig. 2) at the battery plant contain lead oxide in powder form. Mr. Strunk stated that S.E. Graves owned the Chloride Automotive Batteries site from 1969 until 1973 or 1974, ~~after which Conercy~~ then purchased all three contiguous Chloride sites and owned them until Chloride, Inc. purchased the 3 sites in the mid or late 1970's. Mr. Strunk stated that Ms. Julia Herring, personnel manager at the Chloride Automotive Batteries plant, would be an appropriate

~~ACTION REQUIRED:~~ contact for the site.

Steve Walker 7/30/85

cc: 1)
2)
3)
4)
5)

TELEPHONE MEMORANDUM

FROM: Steve Walker (404) 656-7404

TO: Bradley Culverhouse-V.P. Water Services (404) 322-5471

SITE: Choride Metals

DATE: 7/26/85 TIME: 11:10 a.m.

COMMENTS: I called Mr. Culverhouse to inquire as to the source of water for the City of Columbus. Mr. Culverhouse stated the the City is permited to withdraw 54 million galleons per day from Lake Oliver on the Chattahoochee River at a point about 3 or 4 miles south of Columbus. He also stated that the city is trying to get approval to withdraw 67 million gallons per day.

ACTION REQUIRED: Steve Walker 7/26/85

cc: 1)
2)
3)
4)
5)

Appendix C

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S W
ATLANTA, GEORGIA 30334

Commissioner

J. LEONARD LEDBETTER

July 30, 1984

TRIP REPORT

Site Name and Location: Chloride Inc. Columbus Operations-- Chloride Metals, Chloride Auto Batteries Main and Satellite Plants

TMW

Trip By: Tom Westbrook, Environmental Specialist
Remedial Action Unit

Accompanied By: None

Date of Trip: July 23-24, 1984

Officials Contacted: Mr. Kenneth Strunk, Plant Manager
Chloride Metals

Mr. Richard Smith, Plant Manager
Main and Satellite Plants

Reference: None

Comments: On the afternoon of July 23, 1984, the writer travelled to Columbus in order to perform a site inspection for the 3012 Program of the three facilities named above. The inspection was arranged to commence on July 24, 1984.

Upon arrival at the Chloride Metals site, I met with Mr. Kenneth Strunk and the details of our conversations are as follows:

1. Chloride Metals, Chloride Auto Batteries will now be known as the Chloride Battery Division (CBD) of Chloride Inc.

2. Chloride has been known on this site as SELCO--(S.E. Lead Co.) when Satellite and Main were--Contract Batteries. Prior to this the operation has been known as Conerex and S.E. Graves Inc.

3. The Smelter commenced operations in 1962.

4. We discussed the 3012 program and I explored some information about the Waste Pile--this pile is believed to have been a temporary storage facility. The process has never really changed at the smelter, but now, generated wastes are shipped to CWM in Alabama on an approximate 2 wk. schedule.

5. The runoff problem is understood and my position (3012) was expressed.

6. I agreed to sample the soils under the former pile and to split this sample with Chloride.

Appendix C

Prior to sampling, Mr. Strunk presented me to Mr. Richard Smith. Mr. Smith gave me details and a tour of the Satellite and Main Plants. Details are as follows:

1. The satellite facility is no longer a manufacturing operation--rather the area is used as a charging facility and a storage/distribution (warehouse) for customer delivery.

2. The Main and Satellite operations wastes have been accumulated and transported to Chloride Metals for smelting (reclamation).

3. The Main Plant is "geared up" equipped for a higher production capacity and does not store waste lead or oxide rather all materials go to the smelter.

4. On tour the operation has the appearance of a well run, organized, and clean operation.

Sample locations for the Waste Pile were selected with the input of Mr. Strunk. Kenneth was very cooperative and was anxious to obtain the samples that would result in a final disposition with respect to the Waste Pile. Kenneth pointed out the former area of the pile concurred that approximately 1 foot of fill went into the area where soils were taken in closing out the Pile. While digging, the Fill appeared to be more on the order of 6" to 8" (MAX) and holes were not advanced beyond 10". Three holes were advanced in order to obtain a single composite of the rather large area where the former pile rested. Samples taken were placed in a large clean jar, then mixed well (broken in sheet plastic) prior to splitting with Chloride. The composites were labelled WP-1- Chloride Metals and will be delivered to the EPD lab for EP-lead testing. A sketch map was prepared in the field and can be related to existing plant drawings. The sketch map is provided as Attachment 1. Two photographs were taken of sample locations and the area of the former waste pile.

Conclusions: No conclusions can be drawn until lab results are received and evaluated.

Recommendations and Follow-up Required:

1. Lab results must be received and evaluated.

2. A 3012 Site Inspection report should be completed on the 3 sites.

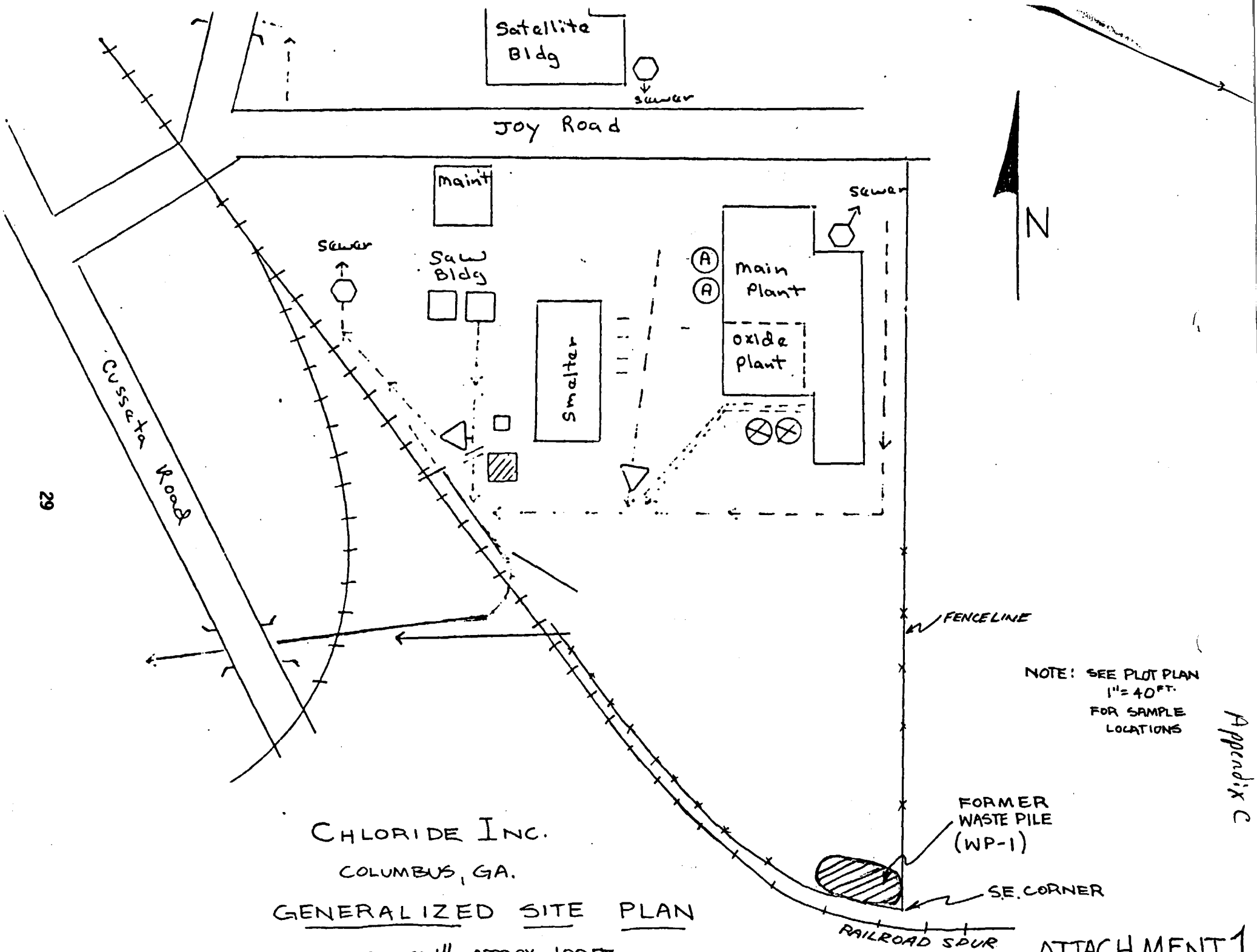
3. A map should be prepared and attached to this memo.

4. Chloride Metals should receive some response to letters requesting change of status to Generator and Transporter from TSD.

Photographs: Two polaroids

Reviewed By: Joseph J. Durowic

cc: John D. Taylor, Jr.
File Chloride Metals--Chloride Auto Batts.-Main and Satellite. "B"



CHLORIDE INC.

COLUMBUS, GA.

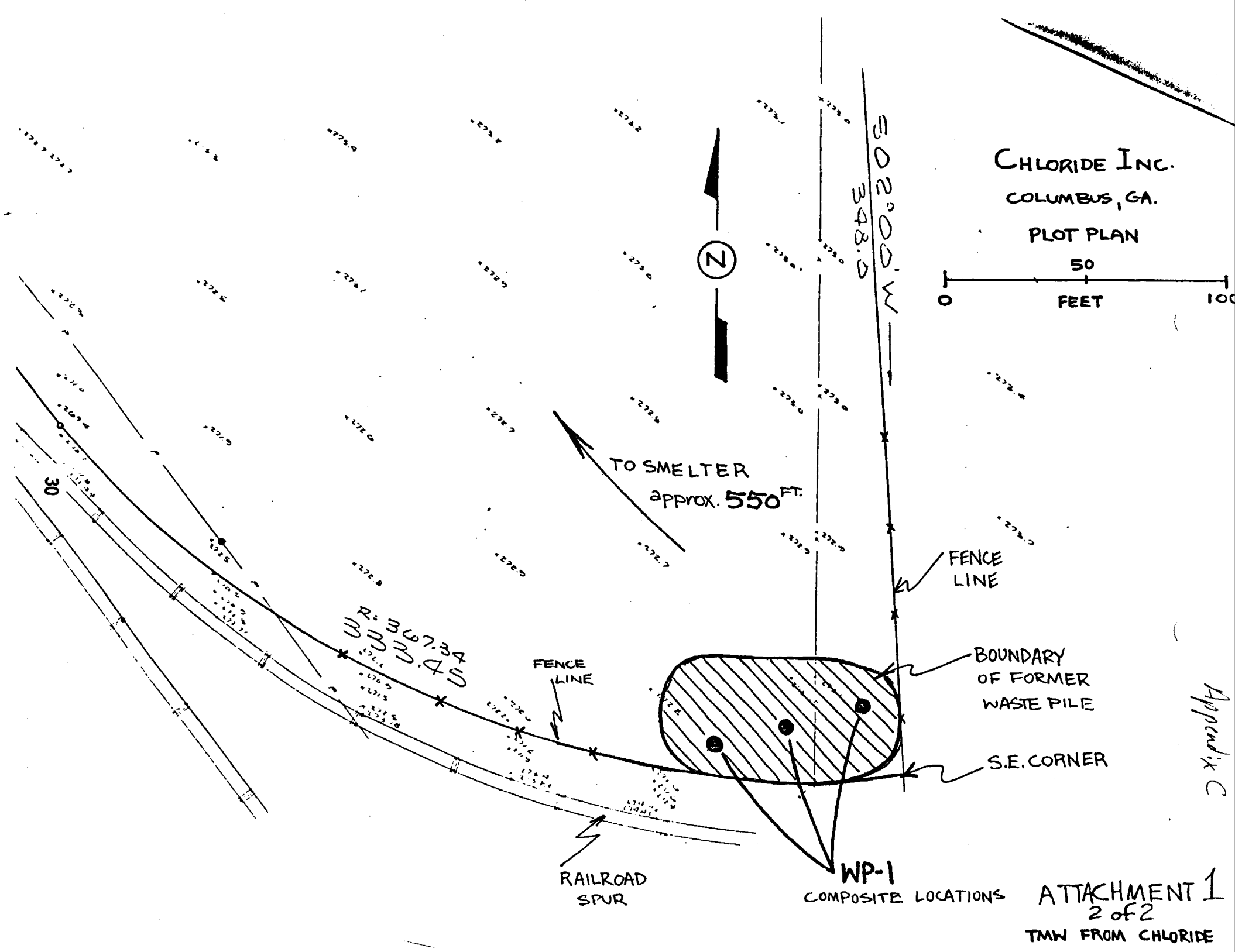
GENERALIZED SITE PLAN

SCALE: 1" = APPROX. 100 FT

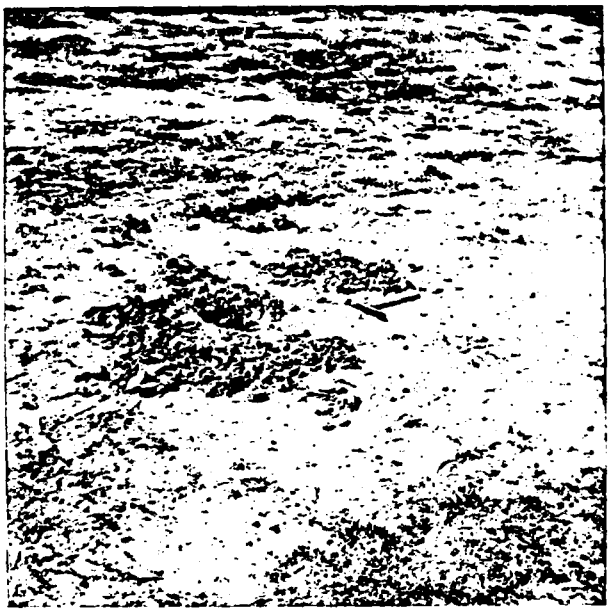
TMW FROM FILE SKETCH

ATTACHMENT 1

Appendix C


CHLORIDE INC.
COLUMBUS, GA.
PLOT PLAN
50
0
FEET
100
N
S02°00'W
348.0
TO SMELTER
approx. 550 FT.
FENCE LINE
BOUNDARY OF FORMER WASTE PILE
S.E. CORNER
FENCE LINE
R= 367.34
S33.45
30
RAILROAD SPUR
WP-1
COMPOSITE LOCATIONS
ATTACHMENT 1
2 of 2
TMW FROM CHLORIDE
Appendix C

Appendix C



#1 24JUL84 JW
CHLORIDE

County Name MUSCOGEE
Picture No 1 of 2
Site Name CHLORIDE METALS
Date 24JUL84 Weather clear
Direction Facing SW
Photographer T. WESTBROOK
Program 3012
Explanation: CLOSE-UP OF FIRST OF THREE HOLES FOR OBTAINING SOILS FOR WASTE PILE COMPOSITE
Other: Near southern fence line railroad tracks further to south (SEE PHOTO #2)

#2 24JUL84 JW
CHLORIDE

County Name MUSCOGEE
Picture No 2 of 2
Site Name CHLORIDE METALS
Date 24JUL84 Weather CLEAR
Direction Facing SW
Photographer T. WESTBROOK
Program 3012
Explanation: PHOTO OF 3 COMPLETED HOLES FOR WASTE PILE COMPOSITE
Other: SAMPLE: WP-1 Chloride Columbus

Appendix C

P.A. - CHLORIDE AUTO BATTERIES/SATTELITE

JUSTIFICATION - Low Priority #GAD991275140

Chloride Automotive Batteries - Satellite Plant is presently an active and RCRA regulated facility. State files indicate recommendation to withdraw interim status, Part "A" as the operation recycles small quantities of produced wastes. Also, plant may be ceasing operations at this writing. Files indicate only minor regulatory action since 1980 - (cooling water discharge into a non-permitted source which was corrected). Prior to 1980 the operation was run along similar lines as the Main Plant (GAD991274929) and was affiliated with Chloride Metals and is owned by the same parent company - Chloride, Inc. I believe that due to operational history and proximity to the Main Plant and Metals facility - a low priority inspection should be required of the facility.

Appendix C

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D991275140

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chloride Auto. Batteries - Satellite	Joy Road (North)

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Columbus	GA	31903	Muscogee	106	3

09 COORDINATES LATITUDE	LONGITUDE
32°26'12.0"	084°55'56.0"

10 DIRECTIONS TO SITE (Starting from nearest public road)

From the intersection of I-185 and St. Marys Road east of Columbus, GA. Proceed west on St. Marys Road to first intersection and turn left (South). Continue south on this road to right hand behind, turn left then take first left and continue to Joy Road. Turn right onto Joy Road and proceed to plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Chloride, Inc.	P.O. Box 1124

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Tampa	FL	33601	(813) 248-3161

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Chloride Auto. Batteries	P.O. Box 3483 Joy Road (North)

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Columbus	GA	31903	(404 689-0761

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☒ F. OTHER: Corporate (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 9/8/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: __/__/__ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 3/20/83 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1972 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Sulfuric acid and neutralized sulfuric acid. Lead oxide (potential)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Low - During filling, spills of sulfuric acid are collected, neutralized and discharged into POTW. Lead battery scrap sent to recycler (chloride metals).

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Grady E. Curl	Manufacturing Engineer/Chloride Inc.	(813 248-3161

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Thomas M. Westbrook TMW	DNR	E.P.D.	(404 656-7404	3/6/84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify) _____
- ☐ E. SLURRY
- X F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS _____
- CUBIC YARDS _____
- NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- X B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	1.2	Million	gallons per year treated
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
D002	Spent sulfuric acid	7664-93-9	T01		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

State Files - EPA Part A
State Inspection Reports
State Solid Waste Reports
Waste Management Data Sheet (attached)

Appendix C
GAD991275140

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

WASTE MANAGEMENT DATA SHEET

RECEIVED

FEB 13 1984

MUNICIPAL SOLID WASTE -

NAME AND LOCATION OF FACILITY

Chloride Automotive Batteries - Satellite Plant
Joy Road
Columbus, GA 31903

PERSON TO CONTACT
(ENTER THE NAME, ADDRESS, TITLE AND BUSINESS TELEPHONE NUMBER OF THE PERSON TO CONTACT REGARDING INFORMATION SUBMITTED ON THIS FORM).

Grady E. Curl, Manufacturing Engineer
P. O. Box 1124
Tampa, FL 33601
813/248-3161

DATES OF WASTE HANDLING
(ENTER THE YEARS THAT YOU ESTIMATE WASTE TREATMENT, STORAGE OR DISPOSAL BEGAN AND ENDED AT THE SITE. IF YOU SELECTED A FACILITY OFF-SITE PLEASE NOTE AND EXPLAIN IN "COMMENTS" SECTION.

Battery manufacturing and waste treatment started at this facility in 1976. The facility is still in operation.

GENERAL TYPE OF WASTE

1- ( ) ORGANICS
2- ( ) INORGANICS
3- ( ) SOLVENTS
4- ( ) PESTICIDES
5- ( ) HEAVY METALS
6- (x) ACIDS
7- ( ) BASES
8- ( ) PCB's
9- ( ) MIXED MUNICIPAL WASTE
10- ( ) UNKNOWN
11- ( ) OTHER (SPECIFY)

WASTE QUANTITY (ESTIMATED)

750,000 gallons/year

HAS THERE EVER BEEN A SPILL OR DISCHARGE OF A HAZARDOUS SUBSTANCE FROM YOUR FACILITY? (BRIEFLY EXPLAIN THE NATURE OF THE RELEASE).

No

Appendix C

COMMENTS

(IF THERE IS ANY COMMENTS THAT YOU BELIEVE WOULD CLARIFY THE PAST WASTE HANDLING PRACTICES OF YOUR FACILITY OR OF FACILITIES YOU SELECTED TO HANDLE YOUR WASTE, PLEASE ELABORATE IN THE SPACE PROVIDED).

The only hazardous waste generated at this facility is sulfuric acid collected from battery filling and battery formation operations. This acid is neutralized and discharged into a POTW.

SIGNATURE AND TITLE

Grady E. Curl	813/248-3161
NAME	TELEPHONE
P. O. Box 1124	
STREET	
Tampa, FL 33601	
CITY STATE	ZIP CODE
Grady E. Curl	9 Feb 84
SIGNATURE	DATE

Appendix C

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

March 30, 1984

Mr. P. N. McNally
Manager, Engineering Services
Chloride Battery Division
3507 S. 50th Street
Post Office Box 1124
Tampa, Florida 33601

RE: Chloride Inc.
Columbus, Georgia

Dear Mr. McNally:

As Mr. David Bullard discussed with you on February 24, 1984, samples have been collected downstream from Chloride Inc. in Columbus, Georgia since 1982 as a result of lead contamination in these streams. The attachment includes results of analyses of samples collected since 1982.

In our February 14, 1983 letter we stated that follow-up inspections would be conducted to assure that lead contamination has been eliminated downstream from this plant. The results of the February 24, 1984 samples indicate that lead concentrations have significantly increased since July 26, 1983. This indicates that Chloride Incorporated has not satisfactorily resolved the problem of lead entering the surrounding drainage system.

We realize that Chloride Inc. has made significant efforts to reduce sources of lead discharges. However, the results of stream analyses indicate that contaminated runoff is continuing to be a problem which must be resolved. It may become necessary to contain all runoff from the plant property to correct this problem.

Please contact Mr. Alan W. Hallum of our staff at 404/656-7400 to set-up a convenient time to meet and discuss this problem. Your cooperation in this matter is appreciated.

Sincerely,

Jack C. Dozier, P.E., Chief
Water Quality Control Section

JCD/dlbe

ATTACHMENT

Appendix C

ATTACHMENT

Chloride Inc.
Columbus, Georgia
Lead Sampling

Sample Location	Date		
	6/10/82	7/26/83	2/24/84
Stream on plant property	Concentration(Pb)	Concentration(Pb)	Conentration(Pb)
Stream Sample	32,000 ug/l	1,400 ug/l	15,500 ug/l
Sediment Sample	46,000 mg/kg	3,350 mg/kg	13,200 mg/kg
Stream at Cusseta Rd.			
Stream Sample	10,500 ug/l	1,440 ug/l	935 ug/l
Sediment Sample	740 mg/kg	120 mg/kg	418 mg/kg

Appendix C

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S W
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

March 28, 1984

M E M O R A N D U M

TO: Alan Hallum AWH

FROM: David L. Bullard DLB

RE: Chloride Inc.
Columbus, Georgia

The results of the analyses of lead samples collected at the referenced facility on 2/24/84 have been received from the Georgia Water Quality laboratory. The concentrations of lead in three out of four of the samples collected have significantly increased since 7/26/83 (see attachment). This indicates that Chloride Inc. has not satisfactorily resolved the problem of lead entering the drainage system surrounding the plant property. It is requested that we send a letter to Chloride Inc. informing them of the trend in samples collected since 1982 and that a plan for additional corrective action be developed and implemented.

DLB/lde

ATTACHMENT

Appendix C Ed Cook

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET S W
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

November 18, 1982

Mr. Laurence W. Hahn
Manager of Manufacturing Engineering
Chloride Incorporated
Automotive Division
3507 50th Street South
Post Office Box 1124
Tampa, Florida 33601

RE: Chloride, Inc.
Columbus, Georgia

Dear Mr. Hahn:

On November 2, 1982, a follow-up inspection was conducted at Chloride, Inc. in Columbus, Georgia to verify the status of action taken to correct problems outlined in our letter of June 18, 1982. Most of the problems noted have been corrected; however, the following problems remain:

1. The cooling water discharge at the Satellite plant has not been eliminated. We understand that new acid tanks are being installed in this area which includes an overflow prevention sump pump to the pH neutralization pit. When this is installed, the cooling water will be connected to the line to the neutralization pit. Please notify this office when the work has been completed.

2. Overall plant site runoff was identified in our June 10, 1982 inspection as one of the major sources contributing to downstream lead contamination. In our August 24, 1982 letter to Chloride, Inc., the engineering design and drawings for overall plant site runoff control were to be submitted to the Division by October 1, 1982. To date, this has not been received. Please submit the plans or drawings explaining how overall plant contaminated runoff will be controlled.

3. The lead contaminated sediment has not been removed from the stream. Please provide this office with a proposal and schedule addressing the sediment removal.

Please provide this office with a status report on the items noted above by December 15, 1982. The Division will conduct follow-up inspections to

assure that appropriate action is being taken to correct these problems. We will continue to monitor Chloride, Inc.'s compliance with the schedule of upcoming actions proposed in your letter of August 4, 1982.

Sincerely,

Jack C. Dozier

Jack C. Dozier, P.E., Chief
Water Quality Control Section

JCD/dlbe

Appendix C

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET, S W
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

J. LEONARD LEDBETTER
Division Director

June 18, 1982

Mr. Lawrence W. Hahn, Manager
Manufacturing Engineering
Chloride, Inc.
Automotive Division
3507 South 50th Street
Post Office Box 1124
Tampa, Florida 33601

RE: Chloride, Inc.
Columbus, Georgia

Dear Mr. Hahn:

On June 10, 1982, representatives of the Georgia Environmental Protection Division conducted an inspection at the referenced facility. This inspection was performed as a result of complaints concerning significant amounts of lead contamination in a drainage area below the plant property. As indicated in our letter dated June 2, 1982, analysis of samples collected in this area confirmed the presence of high levels of lead.

During our inspection of the main plant, the smelter operation and the satellite plant, the following problems were identified as probable or potential causes of stream contamination. Each item is numbered and is referenced on the attached location map.

Main Plant

1. Spillage of lead oxide could occur at the temporary lead oxide transfer station for the main plant. It is recommended that the in-plant transfer system be made operational or that an adequate spill prevention procedure be developed for the temporary system.

2. The potential exists for runoff contamination from the acid storage area. The old tanks should be removed from the site and precautions taken to prevent acid contaminated runoff during periods of rainfall. Leaking water seals were observed on the acid transfer pumps. The seals should be replaced to prevent water accumulation in the area of the acid tanks.

3. There was a discharge from a roof drain of the main plant building. This discharge contained kerosene which was leaking from a storage drum. Although the kerosene leak was eliminated that day, the potential exists for leaks and spills in this area and corrective action should be taken to prevent future problems. In addition, the source of the discharge from the roof drain during periods of dry weather should be identified and eliminated.

Appendix C

Lead Smelter

4. The potential for a discharge exists at the collection area for the cracking of batteries and scrap lead storage. During periods of rainfall the berm at the end of the collection channel would not be sufficient to contain contaminated runoff.

5. The area where impurities from the lead oxide process are stored in barrels is not diked and this area was identified as a source of potential contaminated runoff.

6. Storm water and plant washdown from the smelter and the lead oxide plant drain to a small settling basin and then to the drainage ditch. Just outside the plant property this drainage ditch contained significant quantities of lead based on our sampling results of May 13, 1982.

7. Batteries to be reclaimed were observed stacked in front of the smelter building. The potential exists for acid spillage and runoff in this area. Batteries should be removed and the practice of storage in this area should be discontinued.

8. Oil and steam cleaning wastes have been allowed to run off the plant property in the area of the maintenance building. Although this practice has been stopped, additional cleanup in this area is needed.

Satellite Plant

9. The cooling water discharges that discharge to the drainage area behind the satellite plant should be eliminated or permitted through this office. An NPDES permit application was transmitted to your office in our letter of June 2, 1982.

The pretreatment system for discharges to the municipal system consisted of pH neutralization with anhydrous ammonia. As was discussed, discharges to the City of Columbus' system must comply with the industrial pretreatment requirements for the City. It appeared that the acid wastes from the processes were being adequately neutralized, however, there were no provisions for removal of lead.

We are very concerned with the high levels of lead that were found in the drainage area below the plant discharge. Therefore, we are requesting that your office provide the Division with a report by July 15,1982, outlining action that Chloride, Inc. will take on the following:

1. The discharge of lead-contaminated runoff should be eliminated. The report should address the overall problem with contaminated runoff from the plant site and should include a plan for corrective action as well as a schedule for completion.

2. Our May 13, 1982 sampling data indicated that the discolored sediment in the stream behind the plant property is contaminated with lead. The lead contamination is visible in the stream from the plant property down to Cusseta Road. This contaminated sediment must be removed and disposed of in accordance with all State, City, and Federal regulations.

My staff has indicated that you demonstrated a willingness to resolve these problems and comply with the applicable laws. We appreciate your spirit of cooperation, however, we would like to emphasize that the problem is very serious and, if a timely resolution of these problems is not forthcoming, we are prepared to take appropriate follow-up action.

Sincerely,

Jack C. Dozier

Jack C. Dozier, P.E., Chief
Water Quality Control Section

JCD/dska

cc: Mr. Bob Tant
City of Columbus

ATTACHMENT

Appendix C

Department of Natural Resources
ENVIRONMENTAL PROTECTION DIVISION
270 WASHINGTON STREET S.W.
ATLANTA, GEORGIA 30334

JOE D. TANNER
Commissioner

LEONARD LEDBETTER
Division Director

June 24, 1982

M E M O R A N D U M

TO: Robert W. Troxler

THRU: Alan W. Hallum AWH

FROM: David L. Bullard

RE: Chloride Incorporated
Columbus, Georgia

On June 10, 1982, Alan Hallum and I met with officials of Chloride Incorporated in Columbus, Georgia to investigate possible sources of contamination into streams surrounding this plant. This investigation was conducted as a result of significant amounts of lead being found in streams and sediment samples collected in the surrounding streams on May 13, 1982.

Those in attendance at this meeting were:

1. Laurence Hahn: Regional Manager
2. Dick Smith: Manager, Main Plant
3. Kenneth Strunk: Manager, Smelter
4. Ron Fisher: Manager, Satellite Plant
5. Louis Anderson: Area Personnel Manager
6. Alan W. Hallum: Georgia EPD
7. David Bullard: Georgia EPD

The investigation included a tour of the Maint Plant, the Smelter Operation and the Satellite Plant. The attachment outlines problems identified at each of those facilities. Each problem is numbered and is referenced on the attached location map.

When the tour was complete, Alan Hallum discussed with the Chloride representatives the action which would be necessary to resolve identified problems. Chloride representatives indicated a willingness to correct these problems.

Also during the investigation samples were collected and photographs were taken. Information on the sample point location and results will be attached when available.

After the investigation and meeting, Alan Hallum discussed the situation with Mark McGee of Channel 9 News in Columbus, Georgia.

Appendix C

A letter was sent to Chloride Incorporated requesting that the problems identified during this inspection be resolved. Chloride Incorporated was requested to send the Division a report explaining what action will be taken, including a schedule, for the resolution of these problems.

DLB/lde

ATTACHMENT

Appendix C

Attachment

CHLORIDE INCORPORATED
Columbus, Georgia
June 10, 1982

Main Plant

1. Spillage of lead oxide could occur at the temporary lead oxide transfer station for the main plant. The in-plant transfer system should be made operational or an adequate spill prevention procedure should be developed for the temporary system.

2. The potential exists for runoff contamination from the acid storage area. The old tanks should be removed from the site and precautions taken to prevent acid contamination runoff during periods of rainfall. Leaking water seals were observed on the acid transfer pumps. The seals should be replaced to prevent water accumulation in the area of the acid tanks.

3. There was a discharge from the roof drain of the main plant building. This discharge contained kerosene which was leaking from a storage drum. Although the kerosene leak was eliminated that day, the potential exists for leaks and spills in this area and corrective action should be taken to prevent future problems. In addition, the source of the discharge from the roof drain during periods of dry weather should be identified and eliminated.

Lead Smelter

4. The potential for a discharge exists at the collection area for the cracking of batteries and scrap lead storage. During periods of rainfall the beam at the end of the collection channel would not be sufficient to contain contaminated runoff.

5. The area where impurities from the lead oxide process are stored in barrels is not diked and this area was identified as a source of potential contaminated runoff.

6. Storm water and plant washdown from the smelter and the lead oxide plant drain to a small settling basin and then to the drainage ditch. Just outside the plant property this drainage ditch contained significant quantities of lead based on our sampling results of May 13, 1982.

7. Batteries to be reclaimed were observed stacked in front of the smelter building. The potential exists for acid spillage and runoff in this area. Batteries should be removed and the practice of storage in this area should be discontinued.

8. Oil and steam cleaning wastes have been allowed to run off the plant property in the area of the maintenance building. Although this practice has been stopped, additional cleanup in this area is needed.

Appendix C

Satellite Plant

9. The cooling water discharges to the drainage area behind the satellite plant should be eliminated or permitted through the Division.

General

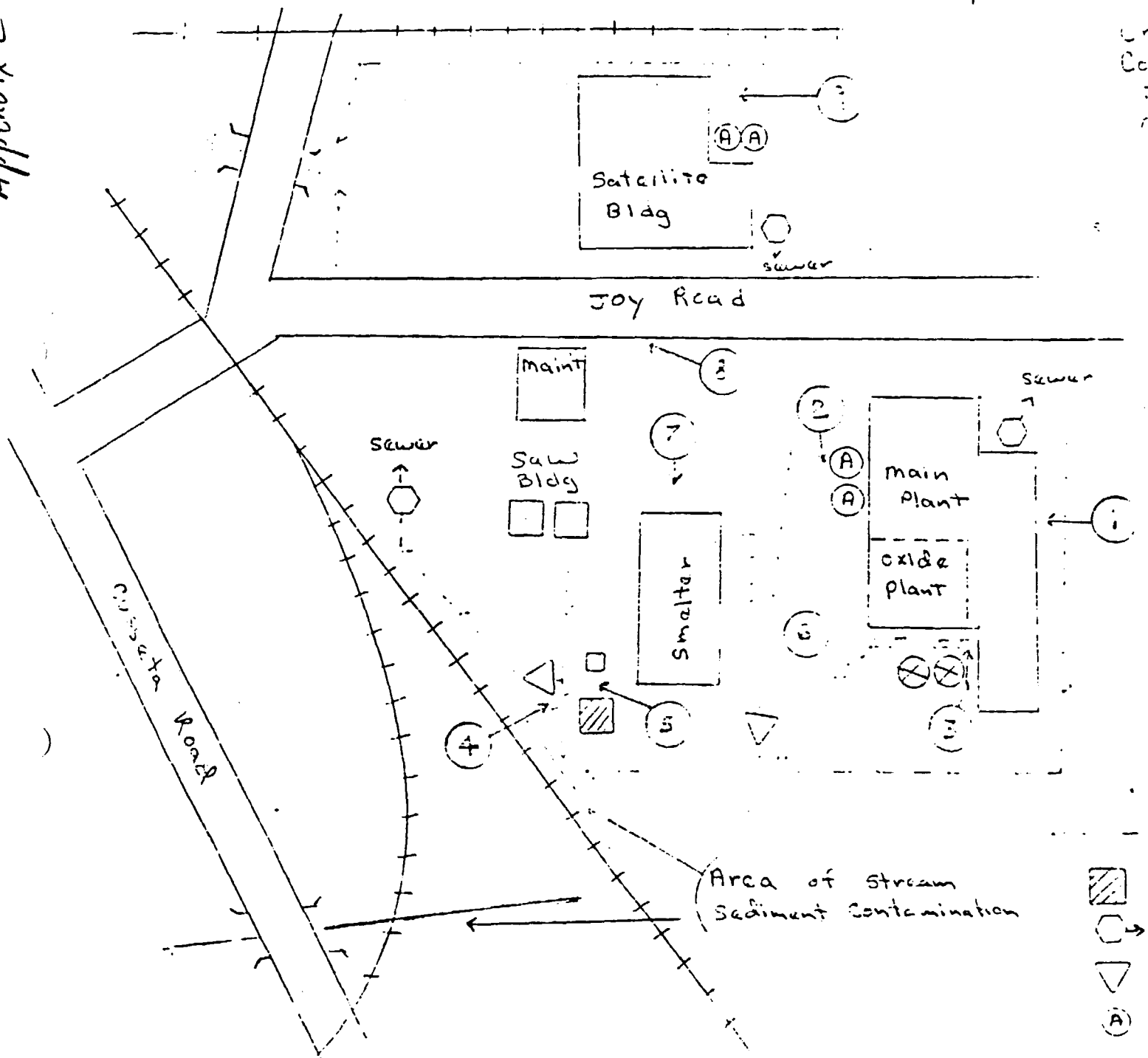
1. The discharge of lead-contaminated runoff should be eliminated. Chloride Incorporated should provide a report addressing the overall problem with contaminated runoff from the plant site and should include a plan for corrective action as well as a schedule for completion.

2. The Division's May 13, 1982 sampling data indicated that the discolored sediment in the stream behind the plant property is contaminated with lead. The lead contamination is visible in the stream from the plant property down to Cusseta Road. This contaminated sediment must be removed and disposed of in accordance with all State, City, and Federal regulations.

3. The pretreatment system for discharges to the municipal system consist of pH neutralization with anhydrous ammonia. Discharges to the City of Columbus' system must comply with the industrial pretreatment requirements for the City. It appeared that the acid wastes from the processes were being adequately neutralized, however, there were no provisions for removal of lead.

Appendix C

Chloride Inc.
Columbus, Georgia
June 10, 1982

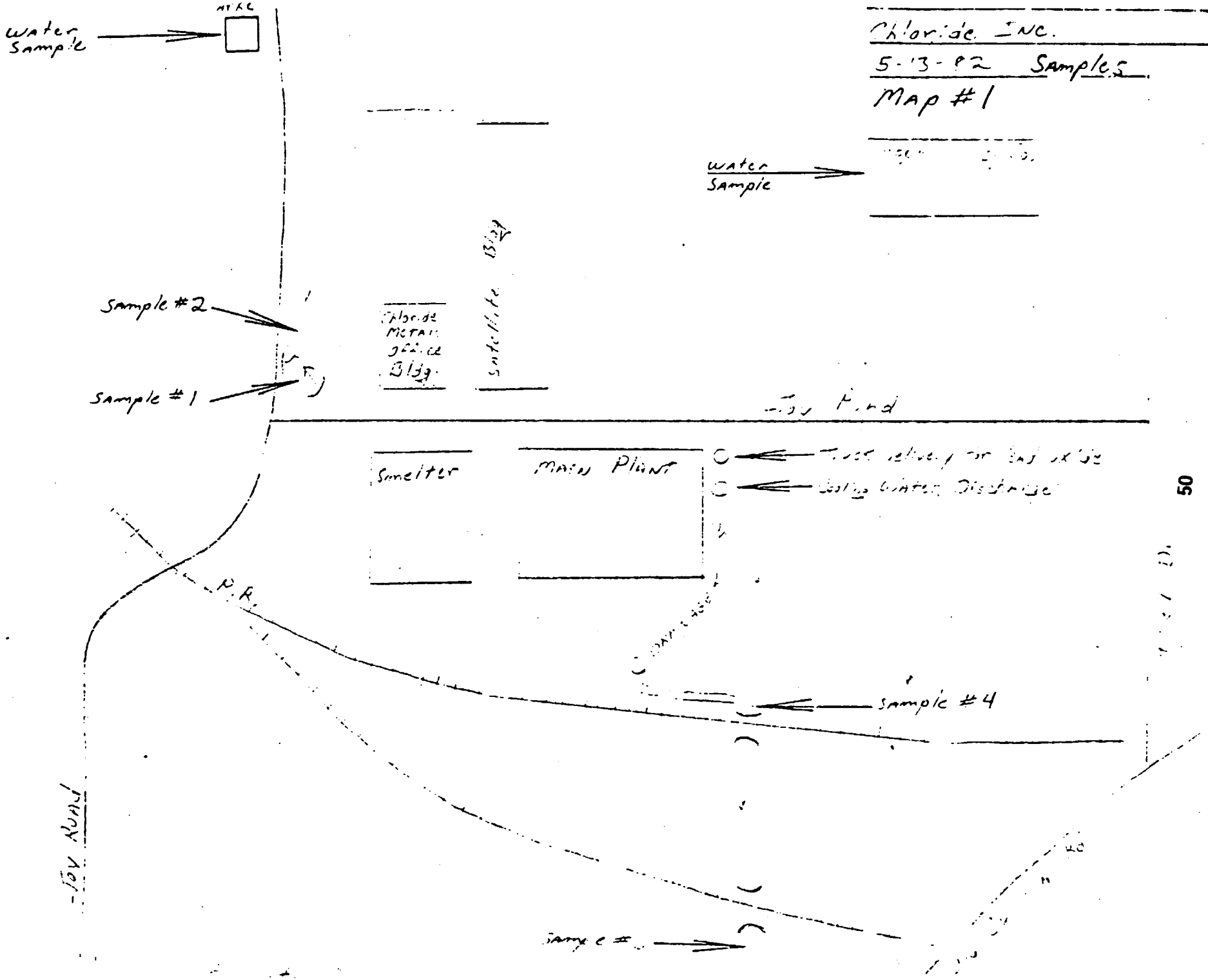


Appendix C

Chloride Inc., Columbus, Georgia

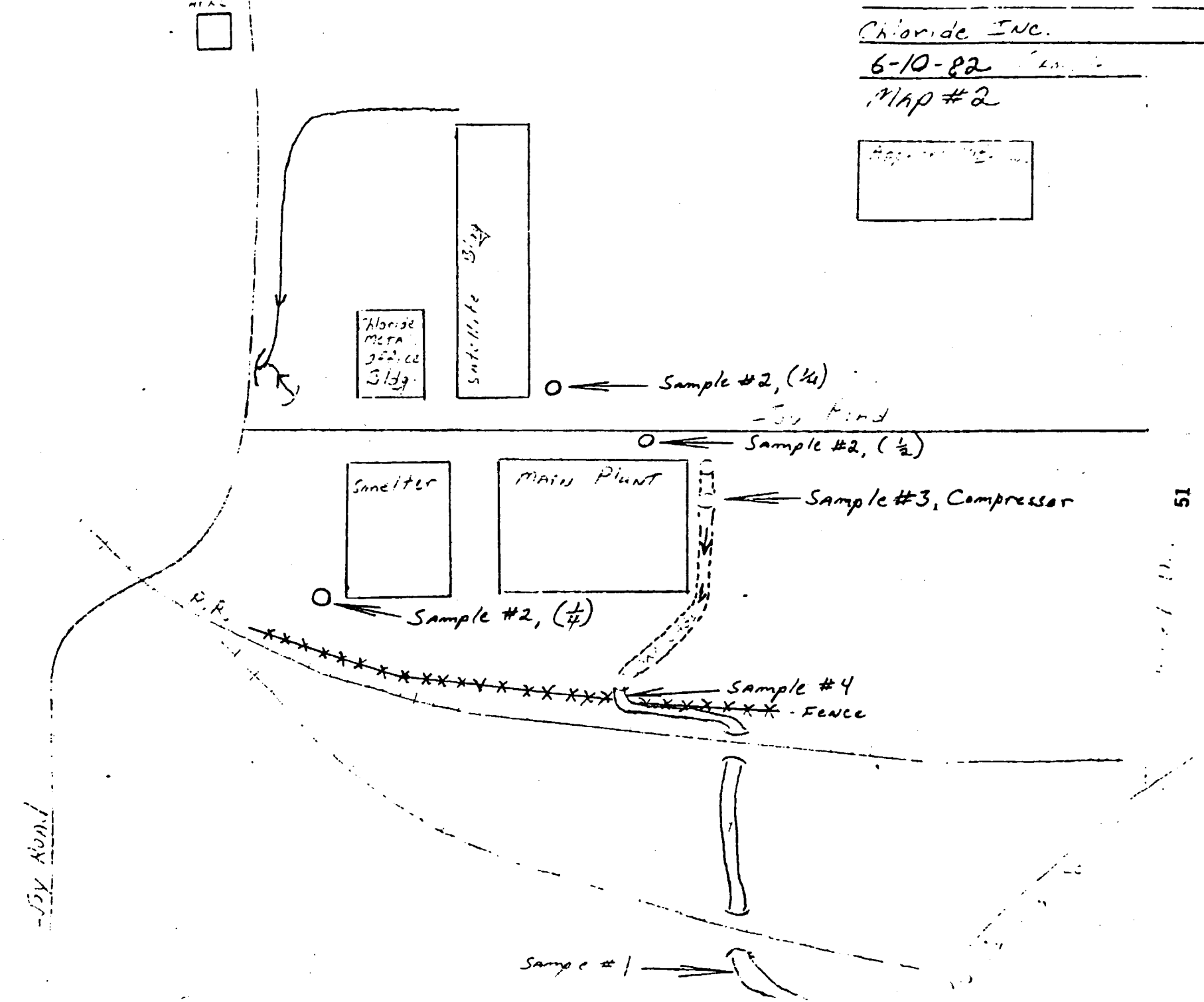
le	Date/ Time	Analyses Cd	Cu	Pb	Ni	Sb	*Refer to Map #1 Sample Location/Comments
le #1	5-13-82 12:25pm			6100 ug/l			Stream in front of Chloride Metals office building on Joy Road. (See location map)
le #2	5-13-82 12:25pm			155 ug/l			Stream in front of Chloride Metals office building on Joy Road. (See location map)
le #3	5-13-82 12:52pm			3950 ug/l			Stream at Cusseta Road
le #3 ent	5-13-82 12:52pm			102 mg/kg			Stream at Cusseta Road. (81.3% Solids)
le #4	5-13-82 1:20 pm			3350 ug/l			Stream just outside of plant property from the Main Plant.
le #4 ent	5-13-82 1:20 pm			12400 mg/kg			Same as above. (77.3% Solids)
							**Refer to Map #2
le #1	6-10-82 3:45 pm	< 50 ug/l	60 ug/l	10,500 ug/l	< 50 ug/l	110 ug/l	Stream at Cusseta Road (Same location as sample #3 collected 5-13-82)
le #1 ent	6-10-82 3:45pm	< 5 mg/kg	< 5 mg/kg	740 mg/kg	< 5 mg/kg	16 mg/kg	Same as above. (77.4% Solids)
le #2	6-10-82 4:00 pm	3,350 ug/l	705 ug/l	32,000 ug/l	225 ug/l	4,000 ug/l	Discharge to sewer system. One-half of sample is from the Main Plant. One-fourth of sample from the Smelter. One-fourth of sample taken from the Satellite Plant
le #3 ent	6-10-82 4:10 pm	< 5 mg/kg	50 mg/kg	8,300 mg/kg	< 5 mg/kg	195 mg/kg	Compressor at the Main Plant (65.6% Solid
le #4	6-10-82 4:20 pm	< 50 ug/l	< 50 ug/l	32,000 ug/l	< 50 ug/l	140 ug/l	Discharge to stream inside plant property
le #4 ent	6-10-82 4:20 pm	6.3 mg/kg	25 mg/kg	46,000 mg/kg	< 5 mg/kg	565 mg/kg	Same as above. (71.2% Solids)

Appendix C


Chloride INC.
5-13-92 Samples
MAP #1
water Sample
water Sample
Sample #2
Sample #1
Chloride Metals Service Bldg.
Smelter
Main Plant
Sample #4
50

Appendix C

Chloride INC.
6-10-82
Map #2



APPENDIX D

APPENDIX D

References

Arora, Ram, 1984. Hydrogeologic Evaluation for Underground Injection Control in the Coastal Plain of Georgia: Georgia Geologic Survey Hydrologic Atlas 10, 41 pp.

Burgess, James V., 1984. Directory of Georgia Municipal Officials: Georgia Municipal Association, Atlanta, Georgia, 9 pp.

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Odom, Ron R., McCollum, Jerry L., Neville, Mary Anne and Ettman, David R., 1977. Georgia's Protected Wildlife: Georgia Department of Natural Resources, Game and Fish Division, 51 pp.

Pine Mountain Soil and Water Conservation District, 1979. Resource Conservation Program and Action Plan: 36 pp.

Sax, Irving N., 1984. Dangerous Properties of Industrial Materials: Van Nostrand Reinhold Co., New York-Cincinnati, 6th Edition, 1,689 pp.

Stokes, W. R. III, Hale, T. W., Pearman, J. L. and Buell, G. R., 1983. Water Resources Data, Georgia, Water Year 1982: U. S. Geologic Survey Water-Data Report GA-82-1, 223 pp.

APPENDIX E

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	0991275140

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chloride Automotive Batteries Satellite	P. O. Box 2165, Joy Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Columbus	GA	31902	Muscogee	215	03

09 COORDINATES: LATITUDE 32° 26' 12.0" | LONGITUDE 084° 56' 00.0"

10 TYPE OF OWNERSHIP (Check one): [X] A. PRIVATE [ ] B. FEDERAL _____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER _____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
08/24/85 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	about 1976 (BEGINNING YEAR) 1984 (ENDING YEAR) [ ] UNKNOWN (used as storage now)

04 AGENCY PERFORMING INSPECTION (Check all that apply):
[ ] A. EPA [ ] B. EPA CONTRACTOR _____ (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR _____ (Name of firm)
[X] E. STATE [ ] F. STATE CONTRACTOR _____ (Name of firm) [ ] G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Tom Westbrook	Environmental Specialist	GA EPD	(404 656-7404

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Mr. Kenneth Strunk	Plant Manager (Chloride Metals)	P. O. Box 2165 Columbus, GA	(404689-1701
			( )
Mr. Richard Smith	Plant Manager (Main & Satellite Plants)	P. O. Box 2165 Columbus, GA	404)689-0716
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT		

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Ms. Julia Herring-Personnel Man.	Chloride Automotive Batteries	(404 689-0761

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Steve Walker Pilot for SW	DNR	EPD-RAU	656-7404	07/31/85 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

J. Surovec

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [ ] A. SOLID
- [X] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS unknown
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [X] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [X] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown	------	lead

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	lead	7439-92-1	de minimus losses	up to 32,000	ug/L total in wa
				up to 46,000	mg/L total in se
ACD	sulfuric acid	7664-93-9	neutralized in tank	unknown	----

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unknown
02 ☒ OBSERVED (DATE: 1982-1984) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Contamination from all three Chloride sties. Lead levels up to 36,000 µg/L have been documented (See Attached).

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 0-3(Approx) (Acres)
02 ☒ OBSERVED (DATE 1982-1984) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Sediment in stream was contaminated with lead from surface runoff from plant area. Lead levels up to 46,000 mg/L (total) have been documented (Attached).

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

EPA FORM 2070-13 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills, Runoff, Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

Storm water runoff from all 3 Chloride sties was believed to have been causing elevated levels of lead in water and sediment in a stream adjacent to the sites.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: Unknown

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				Facility is required to
☐ B. UIC				have a NPDES for storm
☐ C. AIR				water.
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☒ D. TANK, ABOVE GROUND	(See Figure 2, App. A)	
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER _____ (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☒ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER _____ (Specify)

(pH adjustment)

05 OTHER

☒ A. BUILDINGS ON SITE

06 AREA OF SITE

about 10 (Acres)

07 COMMENTS

pH adjustment is carried on at the site. Battery acid is neutralized and discharged to the POTW.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☒ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Fugitive dusts.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Conversation with Tom Westbrook.
GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. [X]	B. [ ]
NON-COMMUNITY	C. [ ]	D. [ ]

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. [ ]	B. [ ]	C. [X]
D. [ ]	E. [ ]	F. [ ]

03 DISTANCE TO SITE

A. 4 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

[ ] A. ONLY SOURCE FOR DRINKING
[ ] B. DRINKING (Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
[ ] C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
[X] D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: unknown, but small

03 DISTANCE TO NEAREST DRINKING WATER WELL: unknown (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
about 50 (ft)	S-SE	10 (ft)	1,000 (gpd)	[ ] YES [X] NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

None is known in area.

10 RECHARGE AREA		11 DISCHARGE AREA	
[X] YES / [ ] NO	COMMENTS: For Cretaceous aquifer system.	[ ] YES / [X] NO	COMMENTS:

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

[X] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
[ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
[ ] C. COMMERCIAL, INDUSTRIAL
[ ] D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Chattahoochee River	[ ]	2 (mi)
Bull Creek	[ ]	1.5 (mi)
	[ ]	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 10,000 NO. OF PERSONS	B. 30,000 NO. OF PERSONS	C. 100,000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION: 1/20 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
about 10,000	1/20 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural village, densely populated urban area)

The site is surrounded by heavily populated urban land.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D991275140

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
about 400 (ft)	< (ft)	4.5-5.5	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
4 (in)	3.5 (in)	2 - 5 %	SW	3 %

09 FLOOD POTENTIAL

SITE IS IN ------ YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. > 200 (mi) OTHER: B. >10 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>20 (mi)

ENDANGERED SPECIES: Red cockaded woodpecker

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 1/20 (mi)	B. 1/20 (mi)	C. about 20 (mi)	D. about 5 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located in a relatively flat area in Columbus. The topography at and around the site has been altered in the construction of roads, buildings, etc. The general slope of the area is 2 to 5% toward the west.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analyses, reports)

USGS 7.5 minute topographic map of area (Columbus Quadrangle).

EPA FORM 2070-13 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER	>	EPD lab	attached (App. B&C)
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL		EPD lab	attached (App. B&C)
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
1	

IV. PHOTOGRAPHS AND MAPS

01 TYPE [X] GROUND [ ] AERIAL

02 IN CUSTODY OF Remedial Action Unit
(Name of organization or individual)

03 MAPS [X] YES [ ] NO

04 LOCATION OF MAPS: GA EPD State Files.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Chloride, Inc.		P. O. Box 488		Tampa	FL	33601

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Conerex		Joy Road		Columbus	GA	31902
S. E. Graves, Inc.		Joy Road		Columbus	GA	31902

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D991275140

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER
Chloride Automotive Batteries		P. O. Box 2165		Columbus	GA	31902	21	Chloride, Inc.

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE
Chloride, Inc.		P. O. Box 488		Tampa	GA	33601

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD	10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE	03 AGENCY

EPA FORM 2070-13 (7-81)

EPA	POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES	I. IDENTIFICATION 01 STATE: GA | 02 SITE NUMBER: D991275140

II. PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ W. GAS CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Z. AREA EVACUATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☒ 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE 1982-1984	03 AGENCY Chloride, Inc.

The yard area around all 3 contiguous Chloride Sites has been paved to eliminate soil contamination from de minimus losses of lead dust.

III. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analyses, reports)*

GA EPD State Files.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D991275140

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION [X] YES [ ] NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

The Water Branch of the EPD has negotiated corrective actions to be undertaken at the site and at the two adjacent sites owned by Chloride, INc. The corrective actions are detailed in Appendix C.

III. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis reports)

GA EPD State Files.

EPA FORM 2070-13 (7-81)

RECORD OF COMMUNICATION

☑ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Tom Westbrook
GA EPD Remedial Actions Unit

FROM: Camilla Warren
EPD Site Screening Unit

DATE Sept 12, 1984

TIME 2 30 pm

SUBJECT CHLORIDE METALS SITE AND TWO CHLORIDE BATTERIES SITES IN COLUMBUS GA.

SUMMARY OF COMMUNICATION

- All three sites contiguous and owned by CHLORIDE METALS.
- Waste pile (on chloride metals property) removed at company expense - sample data by State confirms no hazard. Under EP toxicity for Pb.
- chloride metals received waste from battery operations
- Water people (EPD) have consent order for chloride metals to clean up run-off problem. The company has agreed to collect and treat runoff; get NPDES permit. Water has sampled area for some time (since '82). Data will be included in report.
- Chloride batteries / chloride metals also has some type of air permit
- Site is near a residential area (in 3mi limit)
- no wells known on site.

CONCLUSIONS, ACTION TAKEN OR REQUIRED

THREE SITES ABOVE SHOULD BE ADDRESSED WITH ONE SI report. State will send three copies to EPA

INFORMATION COPIES

TO: Ray Wilkerson, File

RECEIVED

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Chloride Auto. Batteries - Satellite	Joy Road (North)

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Columbus	GA	31903	Muscogee	106	3

09 COORDINATES LATITUDE	LONGITUDE
32° 26'12.0"	084°55'56.0"

10 DIRECTIONS TO SITE (Starting from nearest public road)

From the intersection of I-185 and St. Marys Road east of Columbus, GA. Proceed west on St. Marys Road to first intersection and turn left (South). Continue south on this road to right hand behind, turn left then take first left and continue to Joy Road. Turn right onto Joy Road and proceed to plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Chloride, Inc.	P.O. Box 1124

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Tampa	FL	33601	(813) 248-3161

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Chloride Auto. Batteries	P.O. Box 3483 Joy Road (North)

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Columbus	GA	31903	(404 689-0761

13 TYPE OF OWNERSHIP (Check one)

☐ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☒ F. OTHER: Corporate (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 9 / 8 / 80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES ☐ NO DATE 3 / 20 / 83 (MONTH DAY YEAR)

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)	03 YEARS OF OPERATION
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN	1972 (BEGINNING YEAR) Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Sulfuric acid and neutralized sulfuric acid. Lead oxide (potential)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Low - During filling, spills of sulfuric acid are collected, neutralized and discharged into POTW. Lead battery scrap sent to recycler (chloride metals).

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Grady E. Curl	Manufacturing Engineer/Chloride Inc.	(813 248-3161

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Thomas M. Westbrook TMW	DNR	E.P.D.	(404 656-7404	3 / 6 / 84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☒ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	1.2	Million	gallons per year treated
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
D002	Spent sulfuric acid	7664-93-9	T01		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

State Files - EPA Part A
State Inspection Reports
State Solid Waste Reports
Waste Management Data Sheet (attached)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D991275140

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ C. CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ E. DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: _____ (Acres)	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED
01 ☐ I. POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED: _____	02 ☐ OBSERVED (DATE: _____) 04 NARRATIVE DESCRIPTION	☐ POTENTIAL	☐ ALLEGED

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/runoff/standing liquids/leaking drums)* — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

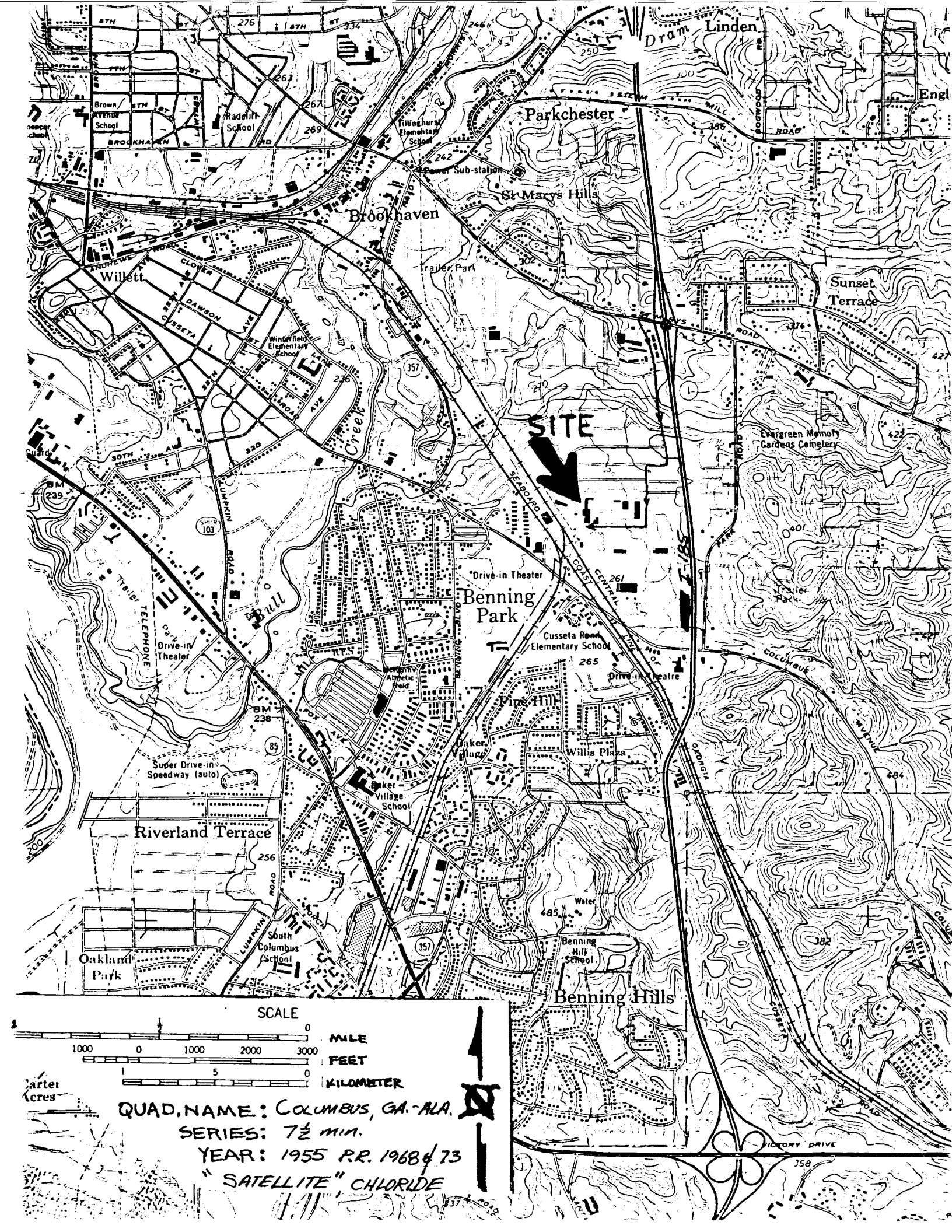
01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION *(Cite specific references, e. g., state files, sample analysis, reports)*


SITE
Parkchester
Brookhaven
St Marys Hills
Willett
Sunset Terrace
Linden
Benning Park
Pine Hill
Riverland Terrace
Oakland Park
Benning Hills
Willis Plaza
Trailer Park
Drive-in Theater
Cusseta Road Elementary School
Evergreen Memory Gardens Cemetery
Bull Creek
SCALE
MILE
FEET
KILOMETER
QUAD. NAME: COLUMBUS, GA.-ALA.
SERIES: 7½ MIN.
YEAR: 1955 P.R. 1968 & 73
"SATELLITE", CHLORIDE

P.A. - CHLORIDE AUTO BATTERIES/SATTELITE

JUSTIFICATION - Low Priority #GAD991275140

Chloride Automotive Batteries - Satellite Plant is presently an active and RCRA regulated facility. State files indicate recommendation to withdraw interim status, Part "A" as the operation recycles small quantities of produced wastes. Also, plant may be ceasing operations at this writing. Files indicate only minor regulatory action since 1980 - (cooling water discharge into a non-permitted source which was corrected). Prior to 1980 the operation was run along similar lines as the Main Plant (GAD991274929) and was affiliated with Chloride Metals and is owned by the same parent company - Chloride, Inc. I believe that due to operational history and proximity to the Main Plant and Metals facility - a low priority inspection should be required of the facility.

GAD991275140

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

WASTE MANAGEMENT DATA SHEET

RECEIVED

FEB 13 1984

MUNICIPAL SOLID WASTE

NAME AND LOCATION OF FACILITY

Chloride Automotive Batteries - Satellite Plant
Joy Road
Columbus, GA 31903

PERSON TO CONTACT
(ENTER THE NAME, ADDRESS, TITLE AND BUSINESS TELEPHONE NUMBER OF THE PERSON TO CONTACT REGARDING INFORMATION SUBMITTED ON THIS FORM).

Grady E. Curl, Manufacturing Engineer
P. O. Box 1124
Tampa, FL 33601
813/248-3161

DATES OF WASTE HANDLING
(ENTER THE YEARS THAT YOU ESTIMATE WASTE TREATMENT, STORAGE OR DISPOSAL BEGAN AND ENDED AT THE SITE. IF YOU SELECTED A FACILITY OFF-SITE PLEASE NOTE AND EXPLAIN IN "COMMENTS" SECTION.

Battery manufacturing and waste treatment started at this facility in 1976. The facility is still in operation.

GENERAL TYPE OF WASTE

1- ( ) ORGANICS
2- ( ) INORGANICS
3- ( ) SOLVENTS
4- ( ) PESTICIDES
5- ( ) HEAVY METALS
6- (xx) ACIDS
7- ( ) BASES
8- ( ) PCB's
9- ( ) MIXED MUNICIPAL WASTE
10- ( ) UNKNOWN
11- ( ) OTHER (SPECIFY)

WASTE QUANTITY (ESTIMATED)

750,000 gallons/year

HAS THERE EVER BEEN A SPILL OR DISCHARGE OF A HAZARDOUS SUBSTANCE FROM YOUR FACILITY? (BRIEFLY EXPLAIN THE NATURE OF THE RELEASE).

No

COMMENTS

(IF THERE IS ANY COMMENTS THAT YOU BELIEVE WOULD CLARIFY THE PAST WASTE HANDLING PRACTICES OF YOUR FACILITY OR OF FACILITIES YOU SELECTED TO HANDLE YOUR WASTE, PLEASE ELABORATE IN THE SPACE PROVIDED).

The only hazardous waste generated at this facility is sulfuric acid collected from battery filling and battery formation operations. This acid is neutralized and discharged into a POTW.

SIGNATURE AND TITLE

Grady E. Curl — NAME
813/248-3161 — TELEPHONE

P. O. Box 1124 — STREET

Tampa, FL 33601 — CITY STATE ZIP CODE

Grady E. Curl — SIGNATURE
9 Feb 84 — DATE